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THE SPHERE, SEPTEMBER 12, 1942
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Vol. CLXX No. 2225 WITH WHICH IS INCORPORATED THE GRAPHIC SEPTEMBER 12 1942

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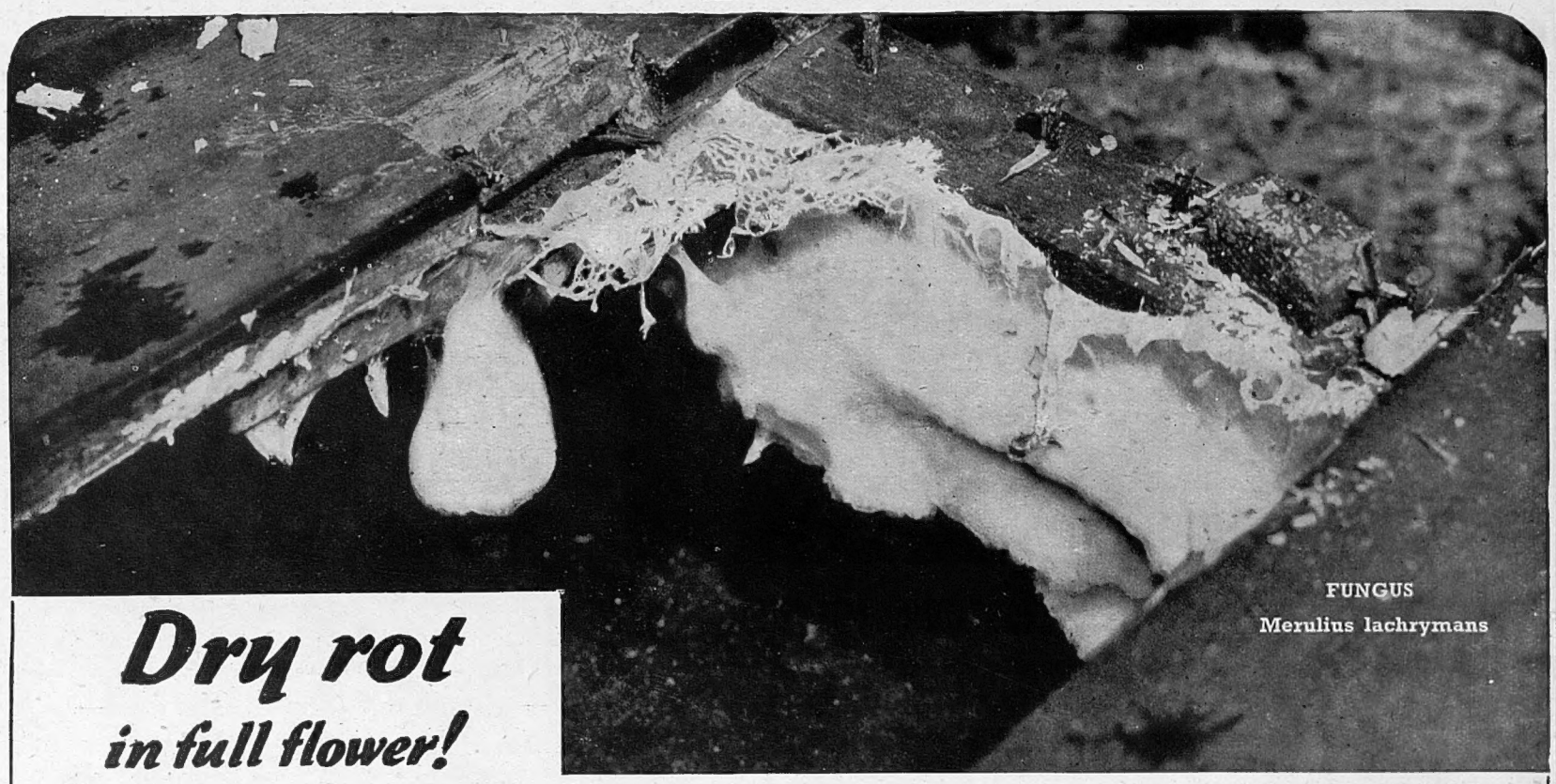

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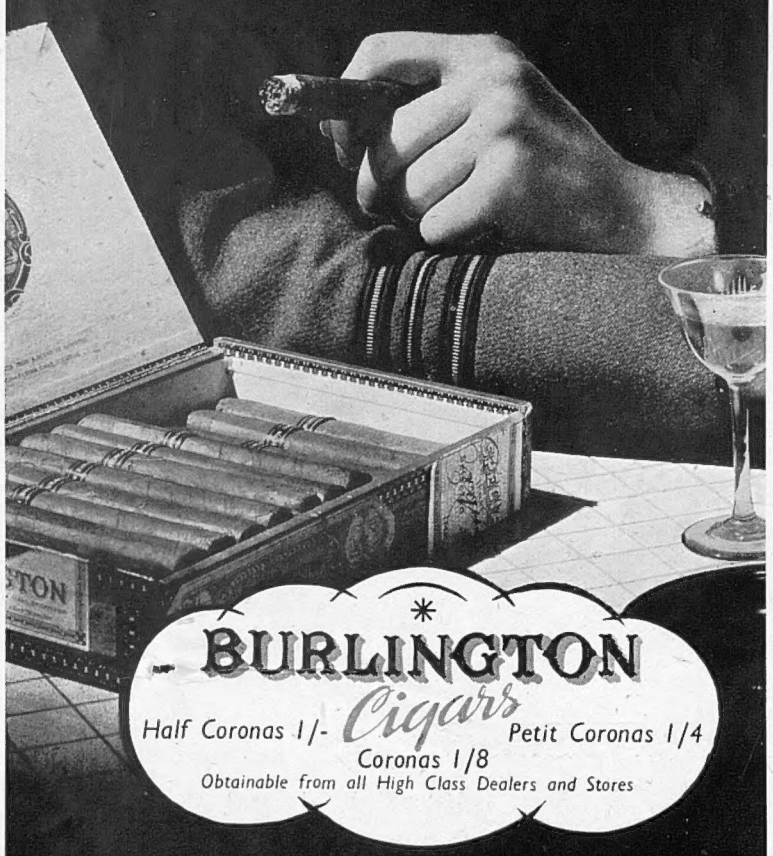

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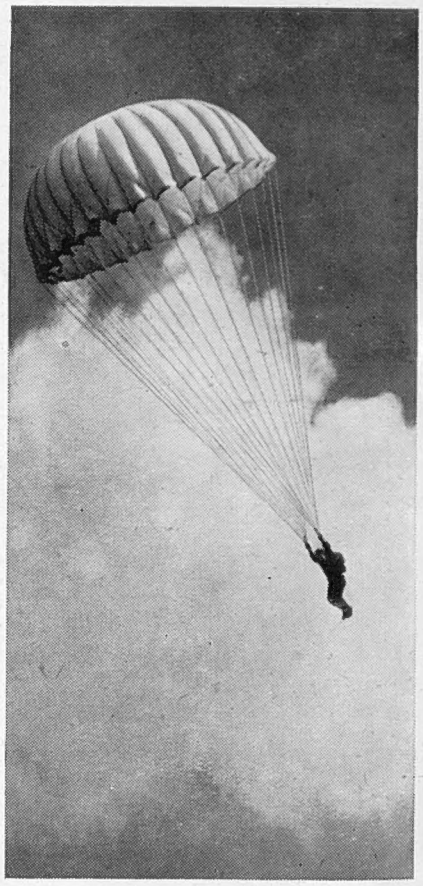

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Volume CLXX No. 2225 The SPHERE, London, September 12, 1942

THE SPHERE

With which is incorporated "THE GRAPHIC"

The Empire's Illustrated Weekly

THE BATTLE FOR THE POSSESSION OF THE SOLOMONS: HOW THE U.S. MARINES LANDED ON GUADALCANAL ISLAND IN THEIR SPECIAL AMPHIBIAN TANKS

Elsewhere in this issue we publish some special drawings and photographs in connection with the U.S. and Australian operations against the Japs in the South-West Pacific. The picture above was taken at Guadalcanal Island, in the Solomons, where the U.S. Marines wiped out the Japs who were busy on the task of establishing bases for aircraft. The Americans used a new type of amphibian tank, one of which is here seen coming ashore. (The picture we give has only just been released in Washington.) These tanks—known to the Marines as "alligators"—are propelled through the water by the scoops attached to their tracks. Aboard the vessel are numbers of storm troops, protected from the fire of the defenders on land by armour plating. (See *also pp.* 334-35 *of this issue*)

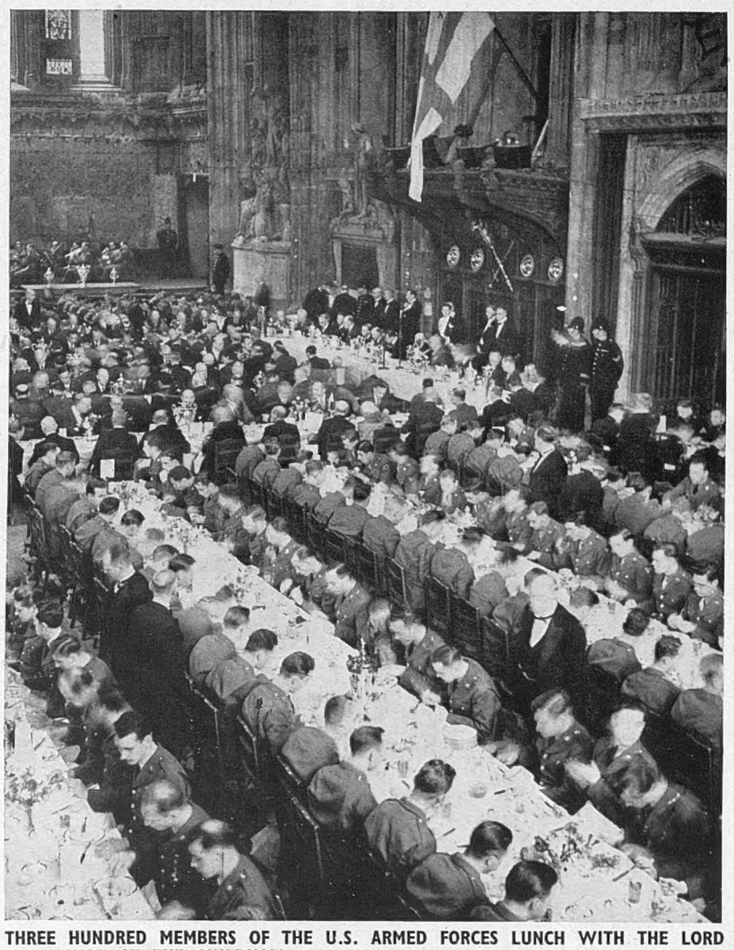
Postage—Inland, 2d.; Canada and Newfoundland, 1d.; Elsewhere Abroad, 1½d.

A WAR NEWSLETTER—No. 158

1, NEW OXFORD STREET, W.C.1.

Three Years Hard.—The anniversary has come round again. We are into the fourth year of world war. If you were over sixteen in 1914, you may call it the eighth year. If you have jaundiced views about the uneasy years of peace between wars, you may call it the umpteenth year of world war, destructive of all things sane and decent and constructive, desolating, devastating, ghastly. Mass lunacy, stark and staring, and, owing to the existence of one man, inevitable. In 1919 a great lesson had been learned, and almost everybody alive knew the vital truth, that war can never pay, that it is the cardinal illusion of the human race. The trouble about this illusion is that it is almost impossible to pin down and nail down. Human memory is short. Every generation insists on learning over again by experience the lessons bitterly learned and handed on by the last. No way has ever yet been found of branding the lesson of the imbecility of war save by waging war, and every war in history has therefore drawn in a majority or minority of the reluctant, of confessed war haters, always caught bending in the first assaults. So bitter were the experiences of the war of 1914-18, that the younger generations of the more civilised powers had accepted the truth of the lesson of that war. They saw war in 1938 as a thing bestial and imbecile and futile, as the older generations of every nation saw it, including Germany. But, for one reason or another, the younger generation in Germany and a warlike element in Japan, had had the lesson knocked out of them, or were too young to absorb it. In 1939, a reluctant world was dragged once more to the altar of sacrifice to provide visual proof of war's mass lunacy to these elements. After three years of quite remarkable suffering and destruction, there are signs that these green elements are beginning to graduate, to feel doubts about the glory and pride and splendour of war. It is, after all, very like hill-climbing. You sweat and sweat upward, gain peak after peak, ridge after ridge, and for ever the top eludes you; always there's another skyline between you and the conquered cities of the world. The animal you scorn and batter proves *méchant et se defend*, and the pickings and glory and triumphal marches are for ever postponed. Victory is too slow in coming when war costs so much in sweat and treasure, and brings so much bitter personal tragedy to every participant. Young Germany and Young Japan have won dazzling triumphs and gained Golcondas of potential glory and riches, but neither glory nor wealth, honour nor reward, rest nor relief, are yet in in sight. Other peaks lie ahead, and God knows what terrors, what retribution, may lie behind them. The feast is spread, but it is a Barmecide's feast. The fruit is gathered, but it turns to ashes in the mouth. With every new triumph, doubt grows and festers. Nine-tenths of the human race knew this secret in 1938. They have endured three more years on the rack to teach a *cliché* to a group of alien schoolboys. Are these the last schoolboys to graduate? Is this the final term of the most expensive school in the educational history of mankind?

Bright as a New Guinea.—The last day of August brought from the East news bright as a New Guinea. This bulletin covered as clean and complete a job as any carried out by Empire and Allied forces during this war. It came on the heels of grave news, an erroneous report of a more serious turn in events at Milne Bay, where, "by taking advantage of the accident of bad weather, the Japanese drove in a strongly-escorted convoy of transports and landed considerable reinforcements." The Australian Press was unusually cast down. Then, in a moment, the official bulletin dispelled the clouds and announced the almost incredible fact that the bulk of the original landing force had been liquidated, and that the "new convoy" was a cruiser and some destroyers sent solely to evacuate the survivors of the original landing. This news, taken with the announcement that in the Solomon Group the Americans hold six main and vital islands in the Tulagi area, and have beaten off counter-attacks with decisive results, gives real justification for a *sursum corda*. The way is long, dark and even desperate, but the Allies are on the march, forwards; and the Japanese have been given something to ponder over. There is sometimes 50-50 even in wars of aggression. The road to world domination is not all dancing and grog. And the sun (even the rising sun) of complete victory climbs slow, how slowly! Returned diplomats have warned both Americans and Britons that nothing but military, naval and air victories can shake Japan's will to war, and that no amount of blockade can starve her out or weaken her war effort. There are clear signs that this fact is accepted in the plan of Allied strategy.



THREE HUNDRED MEMBERS OF THE U.S. ARMED FORCES LUNCH WITH THE LORD MAYOR AT THE GUILDHALL: The scene at the Guildhall on Tuesday of last week as United States officers and men sat down to luncheon as guests of the Lord Mayor, Aldermen, Sheriffs and Councillors of the Corporation. The famous City gold plate was used for the first time since February 23, 1940, when the men of H.M.S. *Ajax* and *Exeter* were entertained on their return from the River Plate victory. Among the guests were Mr. Winant, the American Ambassador; Major-General John Lee, United States Commanding General, Services of Supply, European Theatre of Operations; Mr. Attlee, the Deputy Prime Minister; and Mr. Eden, Foreign Secretary. It is the first time since 1917 that Londoners have seen U.S. troops on parade in the streets of the capital

Amateur and Professional.—We have had less than our usual ration of electric storms these war summers. They are useful correctives in war, although undesirable interrupters of a vital harvest. We had been stewing up, for three or four abnormally sultry days in late August, for the thunderstorm which broke about six o'clock on August 29, and proved a notable one. It was impressive to eye and ear. Its lightning effects and its noise set the worst and best effects of puny man in their proper perspective. Hitler's (or Harris's) best "blitz" is still a damp squib compared with God's, the fooling of incurable amateurs, and only more terrifying because fraught with more danger, which is implicit in the use of dangerous weapons by unskilled amateurs or children. God's skill and experience with these weapons, of whose potentialities man comprehends only the most primitive notions, ensures the maximum of mercy in their use. Hitler's firework display is the clumsiest bungling, noisy, tiresome and destructive. His petards are guaranteed of only one certainty: to hoist the pyrotechnicians who touch them off, first and foremost. As the lightning played round me and the thunder drowned my ears, I took comfort from this thought of the mercy and skill of the professional and of the destructive bungling of the amateur of squibs. I pondered also on the proverbial patience of God with sinners and "would-be gods," and other fools. How odd, I thought, that God has not yet got bored with Herr Hitler. It came to me in a flash of certainty, with the last flash of that genuine firework display, that God's patience is not inexhaustible, and that, soon now, *God is going to get bored with Herr Hitler*. True, he gave Bonaparte an even longer rope, but Bonaparte was a genius and a gentleman (and even a saint) compared with Herr Hitler.

"To-day the Dead are Living."—Day after day, and every day, the rising loss of treasure in young lives of promise blotted out, is brought home to every community, however small, almost to every house; the ever-rising cost of war in the terms which really matter, now and hereafter. Anxiety is more widespread than resignation. There is perhaps, in the nature of the present war, a higher percentage of uncertainty as to the fate of missing men than in any previous war, and not seldom it happens that uncertainty is banished, not by a tragic but by a happy certainty. It chanced that in the same morning of the same day we learned that two sons of near neighbours, long posted as missing, fate unknown, were proved prisoners of war and unwounded. And so it was that a miracle transformed two households in a single small community in an hour. "To-day the dead are living; the lost are found to-day." The pæan of thanksgiving is pitched low in the memory of other neighbours mourning in certainty, or hoping still against receding hope. But the thankfulness is heartfelt by friends or strangers to the missing men. In the universal destruction of war, in this Pentecost of calamity, we clutch at straws of comfort and thank God for the sight of one lighted window, one heart relieved, one desperate hope fulfilled.

Harvest Pickings.—I would not say that the early days of this vital harvest were propitious. We in our corner of England at least have had a doleful summer, if warmth and sunshine and blue sky make a proper summer in wartime. It has not been unfavourable for *work*, and lack of sunshine has not prevented bumper yields of wheat from many unexpected fields. But the carrying has been hampered by tiresome showers, never amounting to rain, compensated by drying winds. In this vital need to get the stuff in and thresh it, a "cat-and-mouse" harvest has been the order of the day, and good progress has been made. What a wasteful business grain harvesting must always be; I wonder what percentage of the yield of grain is stamped down by the tractor or shaken out of the ears, or absalom-ed on the hedge-rows! As a poultry-keeper, I revel in this wastage while I deplore it, for we are all keen and constant gleaners. We have a local and vulgar impression here that gleaning is a citizen's *right* and not a privilege granted by the farmer. We believe that once the corn is carried, we are entitled to enter on the fields for pickings. I am not very clear about the legal position of Ruth or how "alien" was the corn she stood in. But, legal or lawless, by right or by favour, we poultry-keepers neglect no opportunities to salvage waste wherever we find it, and I confess that my family's threshed pickings amount already to four months of the recently current ration of grain for twenty-four hens.

Wasps.—Buzz! The law of supply and demand always adjusts itself quickly in Nature. It is a pity that the science of man lags so far behind. A glut of wheat in man's economy does not always imply teeming millions satisfied. But the wasps know better. They foresaw a fantastic fruit season and their record of births soared. They are everywhere. Fifty wasps to every split plum, sixty in every damaged apple. They infest every room, cover the table, crawl over the meat, cakes, bread, and drown themselves in the soft drinks. They sting and are swatted, and every David has "slain his ten thousand." Myself, I have risen to the occasion, and my Heath Robinson jam-pot traps are very popular. Each, composed of a sticky brew of damaged jam, a drop of syrup and a dash of gin, has a capacity up to 200, and is emptied once a day. In it the wasps "rise on stepping-stones of their dead selves to higher things," but they do not rise high enough, for the sides of the pot are sticky, and a holed cover guards the top. I reckon we kill about 500 a day, and have done so for the past ten days. Five thousand dead. I play a game with myself and call each wasp a Nazi. My triumph is short-lived. A scientific neighbour drops in and asks me how many nests I have destroyed. Only two have been found and destroyed. He has taken sixty-seven in his garden. He reckons my garden holds about eighty. How many wasps in each? Anything between 5,000 and 30,000. Phew! Buzz! It 's rather like the Soviet arithmetic of Nazi losses. So much achieved . . . so much to do!

THE OLD STAGER

THE NEW MOTOR-CYCLE TRACTOR OF THE GERMAN ARMY MAKES ITS APPEARANCE ON THE RUSSIAN FRONT. It is claimed that this vehicle has been developed out of the armoured car, and that it is capable of traversing most types of country. Here it is ploughing through the mud of the Eastern front

The MOTOR-CYCLE "TANK," which has Recently Appeared on the Fighting Front in Russia

During the fighting in the Libyan desert, amongst enemy vehicles captured by the 8th Army was a new type of enemy motor-cycle. (This was illustrated in our issue of July 11, 1942.) Recently a similar type of vehicle was found to be operating against the Russians. This new patrol and reconnaissance machine is known as a "gelandegangige Fahrzeug": it carries a crew of three and can operate over most types of country.

In Russia, the vehicle has been taken into action on the Caucasus front by fresh divisions of Alpine troops. These "mountain tanks" are fitted with cannon and machine guns. That they can be of great use in marshy, muddy areas is demonstrated by the two pictures reproduced here.

The driver operates the machine by motor-cycle handlebars; but there the resemblance ends; because, in place of a rear wheel, are tracks of armoured-car type, and a tank-like body: the other two members of the crew are carried at the rear.

In Libya, motor-cycle tanks of this design were also used to tow small guns up to forward positions.

ANOTHER VIEW OF THE MOTOR-CYCLE "CATERPILLAR," showing its similarity of appearance to a tank. Driver and two other men (with seats at the rear) make up its normal complement of three

MUD IN THE DON DELTA HOLDS UP THE GERMAN TRANSPORTS: Last winter the heavy snows made life unpleasant for the Germans. Then—in the spring floods and mud—they lost the horses which they had used throughout the winter months to replace their mechanised vehicles. Recently, in their advance through the Don region, after the autumn rains, the enemy infantry had to rely on their own efforts to extricate field guns and ammunition carts from the sloughs of sticky mud. What with the mud, the heavy, almost tropical, heat and the swarms of flies and mosquitoes, the everyday life of the German infantryman could not have been enviable!

THE DIEPPE RAID—From the German Side

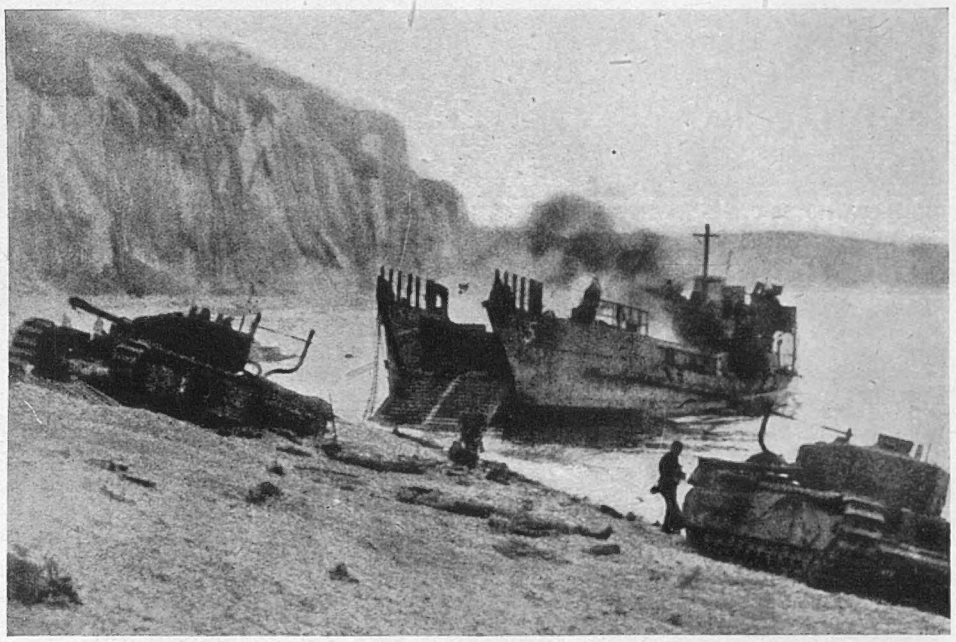
A series of pictures just received in London showing scenes on the Beaches and in the Town as they were witnessed by the enemy after the fighting

A CANADIAN TANK WHICH PENETRATED INTO DIEPPE and was later destroyed by its crew. Note the ruined buildings in the background and the columns of smoke still rising

ON ONE OF THE BEACHES: A big tank is wrecked and abandoned after having served its purpose as a gun platform to cover the land parties. Note in this picture the height of the cliff wall guarding the interior

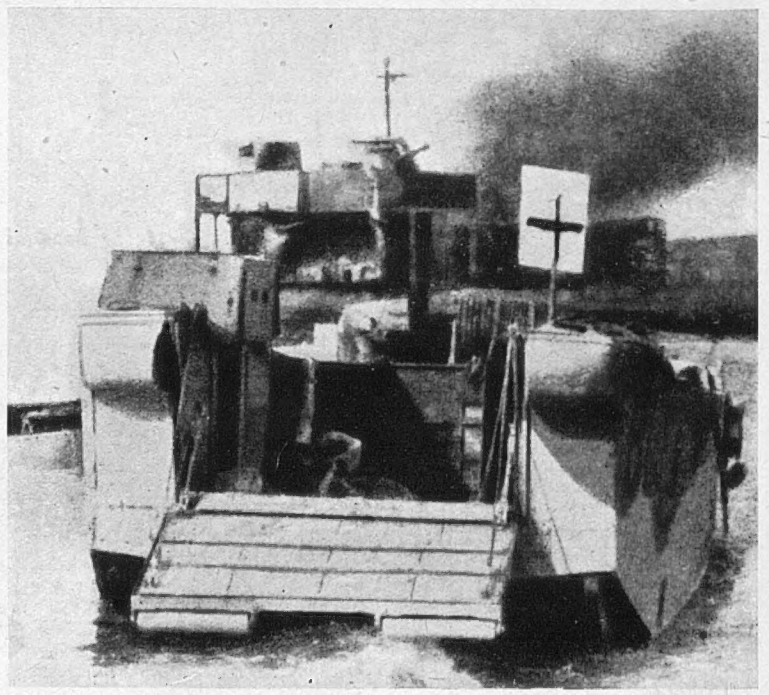
The pictures reproduced here all come from an enemy source. They have been published in Germany and in German-controlled journals in France. It has been admitted by our own military and naval authorities that a number of tanks and landing craft were lost during the raid: on the beaches and in the town—after having served their purpose—all damaged vehicles and naval vessels were destroyed and abandoned before our withdrawal. The enemy have been at pains to have these vessels and tanks photographed and the pictures disseminated as proof of the collapse of the British "Second Front"!

TWO WOUNDED OFFICERS WHO WERE CAPTURED, together with a sick-berth attendant (with a Red Cross brassard on his arm who stayed behind to minister to their needs



A BRITISH NAVAL CRAFT, used for transporting tanks, and two of the latter left behind after the successful withdrawal

BRITISH STEEL HELMETS and other equipment collected by the Germans on Dieppe beach. Note the thickness of the defensive barbed-wire barrier behind



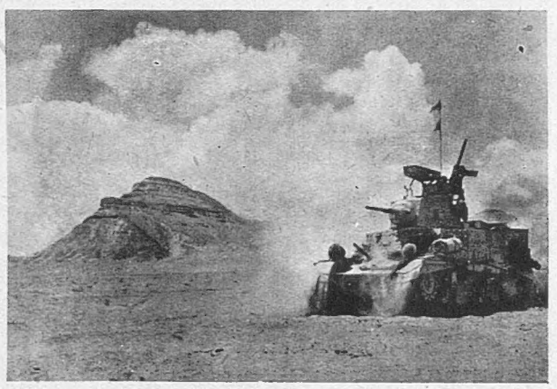
A SPECIAL TANK-LANDING VESSEL which was left behind. A number of these vessels, damaged during the operations, were abandoned at Dieppe

THE "MOUNTAIN" IN THE EGYPTIAN DESERT WHICH WAS THE SCENE OF THE PUSH BY ROMMEL LAST WEEK: The advance was soon converted into a withdrawal, however. Here a British officer is climbing up to a new Observation Post just prior to the enemy's advance and subsequent defeat in this region

MOUNT HIMEINAT

Where Rommel's "Afrika Korps" Launched their Big Offensive in the Desert

El Himeinat lies about 25 miles south of the British positions at El Alamein in the Egyptian Desert. It is a hill some 200 ft. in height on the fringe of the Qattara Depression. For some time before the German offensive was launched, patrols had been busy in this region: a minefield had been laid by the 8th Army, but the "line" was in no sense continuous, or strongly held. The Afrika Korps penetrated the minefield and advanced eastwards—but not for long. By the time their offensive had come to an end, the Germans were back to just where they had begun



HOW MT. HIMEINAT RISES ABOVE THE DESERT SOUTH OF EL ALAMEIN: On left a patrol takes cover under bombardment: on right, a U.S.-built "Honey" tank at speed around the "mountain"

AN OBSERVATION POST IS ESTABLISHED ON MT. HIMEINAT, overlooking the desert country some twenty-five miles south of El Alamein. This sector of the British line was only lightly held by the 8th Army when Rommel started his abortive offensive

THE BAND ALWAYS PLAYS IN SIEGE-TIME . . .

What are we Going To Do to Keep Our Own Army, and the Canadians and Americans, Occupied During this Coming Winter of Black-out? The Local "Little Hitlers" in Some Parts of the Country are Already at Work Cutting Down on Entertainments and Forcing the Troops Back on to Their Own Limited Resources. . . .

By FERDINAND TUOHY

AS the Russians have been reminding us, Hitler looks upon Britain as a huge internment camp where he has the British Army—and the Canadian—and the American—as he wants it. Any justification he may have for this conceit has still to be determined, but in the meantime it is a matter of general acceptance that he has us living under nationally extended siege conditions. Garrison and alert duties for the troops, with preparations for sorties; the air arm constantly flying forth; the Navy maintaining sea lanes to the world without; and maybe thirty million civilians keeping the home fires and the blast furnaces burning—55 per cent. of them in the State service.

Sieges notoriously get on the nerves. There is that feeling of going round in circles doing the same things, seeing the same people. Hope and frustration are accentuated, also rumours. The selfish grab, and the mean make mischief. Humanity gets stripped and isn't so very fond of itself. That 's what an Austrian woman doctor said in Przemysl, the only siege I ever knew anything about. Another thing she told me, when I arrived with the Russians, was that the best tonic during the four months had been the band playing Strauss and Lehar each noon. "It brought back Vienna and kept us going." Now that you think of it, the band always has played in siege-time. Wise conductors of sieges have clung to every bit of normality they could, not excepting normal distractions so far as these have not impaired the safety of the fortress. They have avoided anything calculated to depress or to spread monotony unnecessarily. They have cultivated the garrison of good cheer and red blood, even if morals did sag, another inevitable siege-time symptom.

As we face the fourth autumn and winter of long black-out, the public prints complain of lack of interest in the war on the public's part, of apathy. Whatever the contributory causes of this condition, which is obviously communicable to the Forces living cheek by jowl with civilians, among them must be included a degree of drab monotony gratuitously inflicted upon siege-time Britain by a wintry Philistine minority of local little Hitlers on the town council, now sanctimonious, now hypocritical, always ingrowing. I don't mean all local councils but too many of them. All allowance made for the shortage of service and commodities in places of public resort, for scarcity of transport, for the need to save, and for the effects of the new fuel campaign—the fact remains that a bunch of played-out morons up and down the land are capitalising all they can on the country's predicament, and are working no good for its siege-time morale. Even when local residents try to brighten the landscape, this is, as often as not, what happens:

"Referring to the charge by Coun. X that Sunday concerts were desecrating the Sabbath, Mrs. Y asked: 'I wonder if this man has never done anything worse on a Sunday than promote a concert for the enjoyment of other people?' Concerning the three Councillors who wanted to deprive the troops altogether of their Sunday concerts, Mrs. Y said: 'Do these Councillors realise that if it were not for those men of Crete, Dunkirk, Dieppe, etc., and you Forces here, they would not be sitting in their own houses in comfort? Do they realise that you Forces would be only too glad if you could be sitting in your own homes in comfort, and spending your Sundays as you wished?' An Army sergeant contended that the Council could have no other object in mind but to close down these concerts altogether."

This is happening in a small front-line community far from London, where there are two cinemas, dried-up pubs, and an occasional Y.M.C.A. dance. It 's all right now. When winter comes is the point.

One would think these local little Hitlers would be prepared to make their sacrifice to the nation's effort by allowing others with different tastes and pulses to enjoy their leisure. They talk so readily of "our heroes," but when our heroes return, as the Canadians from Dieppe, they are refused their customary drinks in the local pubs. The truth is that a certain element here aspires to get through this war without being incommoded by a ripple emanating from millions of troops bursting with physical fitness. They are unable to picture themselves as being really involved behind the lines. They recoil at thought of contamination by the lusting soldiery. It is an extraordinary situation never before witnessed behind any front, and the position constantly assumes fresh tinges with the flow of troops from North America in augmentation of the Canadian and American Armies. These are what are called he-men, and when they go to the wars they expect to junket behind the lines as their fathers did. Britain, of course, is virginal in these matters. She has never had to cater for armies in and out of the line—the Channel doesn't alter things. What amazes is the inability to realise that it is part of her business to do so now.

Writing of the "huge aimless crowd of troops and war-workers on week-end leave, who cannot get in anywhere," Ivor Brown offers this palliative: "One short-term remedy for the coming winter is the provision of music in every building that could be used for it. The 'Proms' have crowded the Albert Hall, and reports from everywhere show that music of all kinds is in immense demand (especially what might be called the 'popular classical'). All towns of any size should now regard music as a regular necessity and not as an occasional pleasure. Music is much easier to organise than drama. So much less equipment is demanded. Moreover, the appeal is completely international and the absence of a language barrier is often valuable."

Councillor X and his friends permitting, my dear Mr. Brown, so far as Sunday's aimless hordes are concerned.

I make no apologies for a further extract from the *Observer*, as showing others to be of a mind that the band should, figuratively, play in siege-time Britain: "We English take our pleasures sadly, and though few sights are sadder than the West End on Saturday afternoon, with its cinema queues and shop-gazers and aimless hordes in battledress, by the evening the usual sadness and boredom become positively sinister. Quarrels break out in the pubs, redcaps scour the streets, cafeterias and shooting-galleries disgorge their patrons, who form the spectacle so depressing to modern poets from Baudelaire to Eliot, of a democracy that has not learnt how to enjoy its leisure. As a Londoner, one feels particularly embarrassed for the foreigners in the crowd, the troops of so many Allied nations who are now with us, and who, in the largest city in the world, can find so little to do and will have so little by which to remember it."

One's objection to this otherwise accurate indictment is that the public isn't so dumb about how to enjoy itself *if it were given the chance*; and that it could do so without damaging the war effort but the reverse, inasmuch as the staleness of boredom promotes the stalemate mind currently being detected.

But no. Local petty bureaucrats, gorging their fleeting authority, put up CLOSED in the public's face. One need only instance the idiocy by which theatres may not give plays on Sunday, but next-door cinemas may give the films of those plays.

As for the foreign contingents in our midst, they will remember London and kindred leave centres with a long yawn, coupled with a wondering in retrospect that people can be such mutts as to throw away precious week-ends, aggregating a quarter of one's existence, in aimless do-nothing under the sign of CLOSED.

Or else such places of entertainment as are open are insufficient or beyond the hard-hit working purse. I have no hesitation in saying that cinemas are a vital adjunct to a nation at total war and that, as such, their prices should be controlled. The latest increase, it seems, embodies Budget increases and the industry's earlier decision to raise prices. All I know is that in my war-town one feels a plutocrat in the emptiness of half-crown stalls, while on either side and out into the street stand tired war-workers and troops.

As the war continues and the North Americans flow in to mingle with a huge British Army, we shall all of us have to put up with increased rowdiness, and a precious little thing to have to put up with, considering it will emanate from those "for whom nothing could be too good." The obvious way to hold things in reasonable check—namely, to throw open and augment entertainment and relaxation facilities, particularly at week-ends; in fact, to let the band play—is unlikely to be adopted until something bursts. Much should depend on how long the Americans will stay cooped up here. I guarantee that, should their sojourn extend to anything like the Canadian length, we shall be radically revising our attitude to the whole question of catering for the tired warrior.

At present, Americans cannot find even beds, though where I stop in Town, to name just one part, rows of fine houses stand empty. Fortunately for the Americans, they are to have their own clubs right and left, which, taken along with invitations to British homes, should enable them to navigate something of the week-end drear.

FOOTNOTE.—I see Braintree Council is to decide whether to allow cinemas to open on Sundays. They have refused once, and military welfare officers are now trying again. "Sunday opening is a concession," comments the *Star*. "That is the irritating part about the business. All our social legislation seems to be infected with this local option principle which gives municipal mandarins the power to specify how the civilian or the soldier shall spend his leisure on wartime Sundays." That 's just it, and "infected" is the word.

WHAT THE MUNICIPAL AUTHORITIES AT ROTHERHAM ARE DOING TO ENTERTAIN THEIR TOWNSPEOPLE

For generations, music-hall comedians have found a sure-fire laugh in references to Wigan Pier. But to-day—in addition to Wigan Pier—we have Rotherham Sands as well. In the Municipal Park, in addition to many other attractions for the holiday-makers, fifty tons of sand have been brought from Filey, so that the children can dig and make sand-castles when they get tired of the Punch and Judy show and the paddling pool and other attractions. For the grown-ups there are "beach" huts, band concerts and pierrot shows: the concert in progress when the above picture was taken was organised by Civil Defence workers from Rotherham's Casualty Clearing Stations. It was so popular with the children that there was only "standing room" for the adults!

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this publication should not be taken as an indication that they are necessarily available for export

"WE BOMBED SAARBRUECKEN"—and then they flew across the Atlantic to Canada, to relate their experiences of an actual bombing raid over Germany, within twenty-four hours of its occurrence. This Canadian Official photograph was taken at the start of the cross-Atlantic flight

From left to right are: Two members of the ground crew; Flight Sergeant Don Morrison; Flight Sergeant Karl Sveinson; Flight Sergeant S. C. Lee; another member of the ground crew; Flight Sergeant Art. Loach; Pilot Officer John Higham; and Wing Commander Walsh, Commanding Officer of the Squadron

AFTER THE RETURN FROM SAARBRUECKEN—The crew being interrogated at their British base. From left to right: Flight Sergeant S. C. Lee, Flight Sergeant Art. Loach, Flight Sergeant Sveinson, Flight Sergeant Don Morrison, and Pilot Officer John Higham

From GERMANY to CANADA

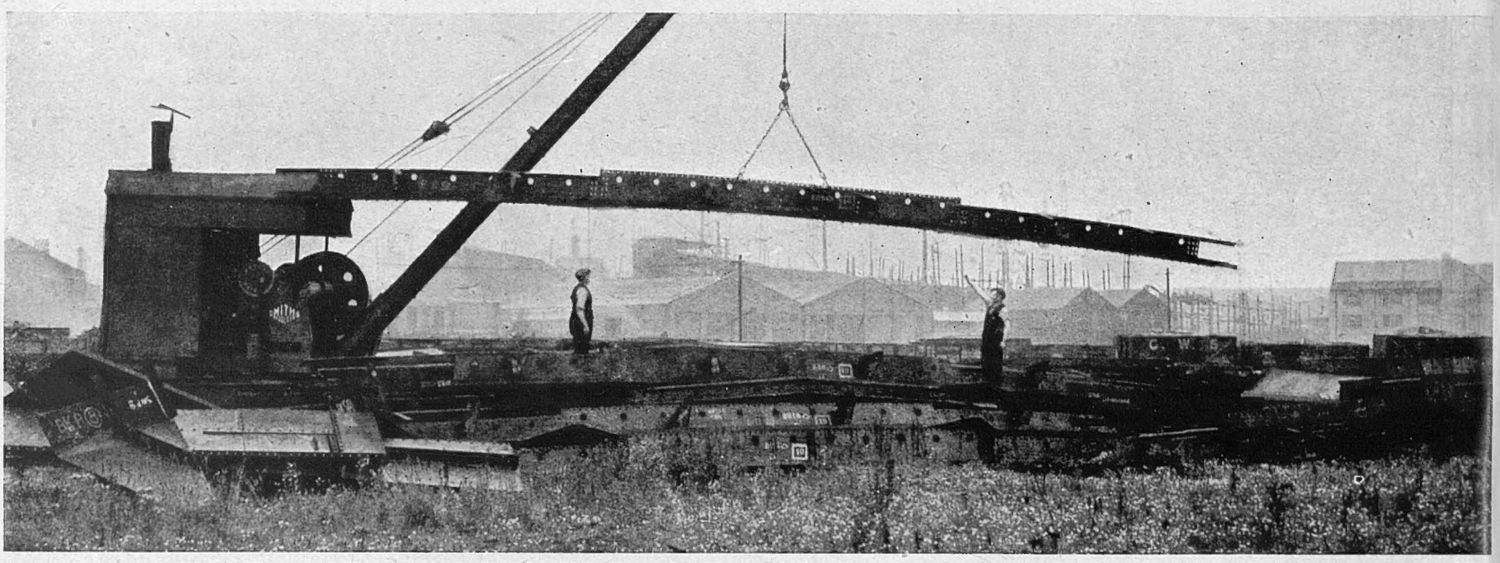
Within Twenty-four hours of Bombing Saarbruecken, a Canadian Crew Arrives in Canada

—A Wonderful Feat Just Carried Out by the R.C.A.F.

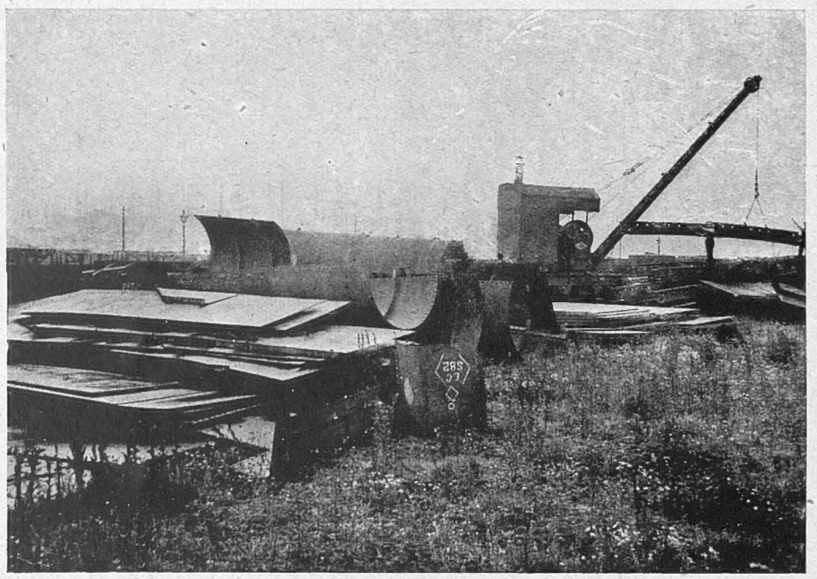
On the night of September 1, an aircraft of the Royal Canadian Air Force took part in the heavy bombing attack on Saarbruecken, in Western Germany: on the night of September 3, the crew of this aircraft made a personal appearance at the Maple Leaf Gardens in Toronto, to tell their own stories of the raid to a crowd of 10,000 of their fellow countrymen. Immediately after they returned from the raid, they were interrogated by the Intelligence Officer of their base in Britain. Outside, an aircraft was waiting for them, and as soon as they had completed their routine duties, they were flown to an airport in the North of England. Here a Liberator of Ferry Command was waiting to fly them 2,000 miles across the Atlantic to Canada; when they reached Dorval Airport at Montreal, they again transferred to another aircraft, and arrived at Ottawa, the Dominion capital, by midnight—less than twenty-four hours after having been over Germany!

On right—**In the front row: Flight Sergeant "Jiggy" Lee, of Elfros, Sask. (navigator); Pilot Officer John Higham, of Assinaboia (pilot); Flight Sergeant Karl Sveinson, of Winnipeg (wireless operator); Flight Sergeant Art. Loach, of Islington, near Toronto (gunner). Standing behind: Flight Sergeant Don Morrison, of Sherbrooke, Quebec (gunner). Both Loach and Morrison have each shot down a German night-fighter**

BRITAIN BUILDS MERCHANTMEN ON THE PRE-FABRICATION PLAN

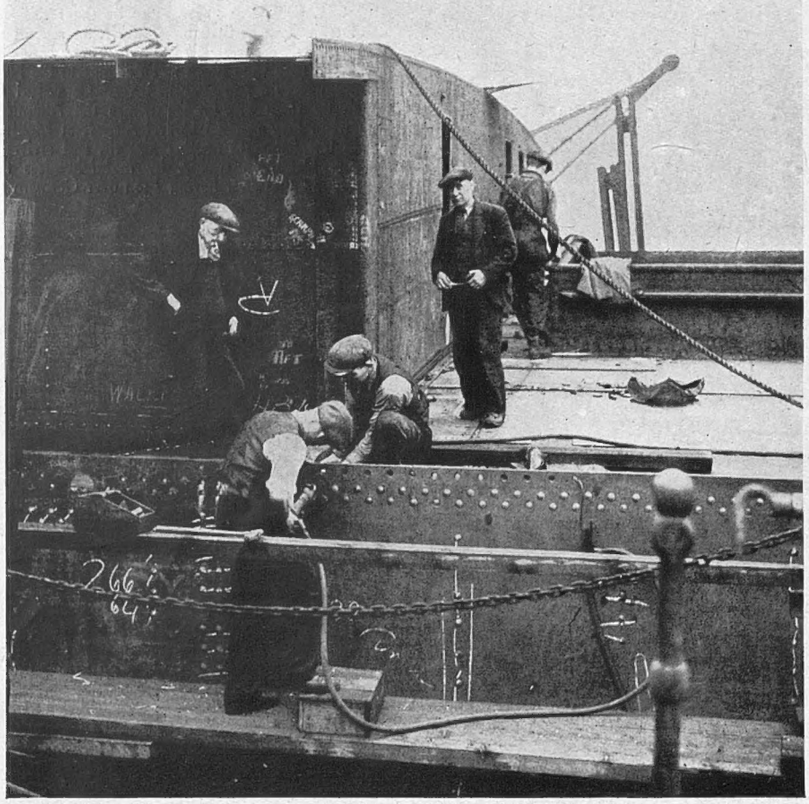


HOW THE FINISHED SECTIONS OF THE SHIP ARRIVE AT THE SHIPYARD: Pre-fabricated hatch-end beams, carefully numbered and detailed, hoisted in readiness for assembly after their arrival from the factories. In the background can be seen the stocks on which other pre-fabricated ships are being built

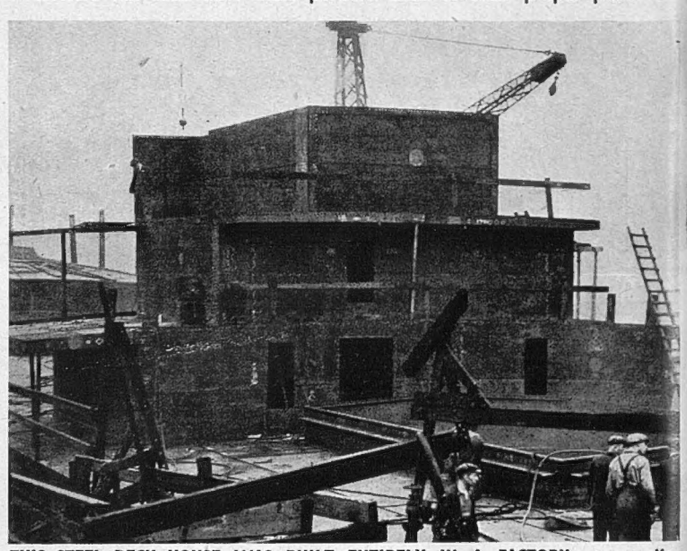


READY TO BE HOISTED INTO THE SHIP UNDER CONSTRUCTION: Every piece has been carefully numbered, and at the given moment will find its place in the pre-fabricated ship

THE SHIPYARD FOREMAN CHECKS OVER THE PARTS AS THEY ARRIVE: The riveters will soon have these portions fixed in their proper place



THE PENCILLED FIGURES AND SIGNS ARE THE SHIPBUILDER'S INSTRUCTIONS: with these the work of the riveters is simplified and greatly quickened



THIS STEEL DECK HOUSE WAS BUILT ENTIRELY IN A FACTORY many miles away. It is easy to see how it has been built up section by section

The series of pictures reproduced here are the first to be taken at a British shipyard where merchant vessels on the pre-fabricated plan are being constructed. This is the method now widely used in the United States: the vessels are all of standard design, and the various parts—some of them of great size and weight—are entirely made at inland factories. They are taken to the actual shipyard and assembled on the slipway, from which the vessel is then quickly launched. In the U.S., many of the factories where pre-fabrication is undertaken are a thousand miles from the sea! The adoption of the new method is greatly speeding up the launching of the merchantmen which Britain so badly needs: not only is there a great saving of time, but thousands of additional workers, in all parts of the country, can be employed on the task. Many women have been trained to carry out certain stages of assembly, and numbers of them are now ably helping in the shipyard. There is an additional value in the pre-fabrication method: when a vessel needs repair, having been built to a standard design, the work can be quickly carried out with spares already in existence!

THE MAIN FRAMES OF THE PRE-FABRICATED MERCHANTMAN: These have been placed in position on the stocks in the shipyard: later, the various sections of the vessel will be placed in position as they come—in their proper order—from the various factories

An electric-welder, in a protective mask, working on a bilge-keel of the ship

A boy heater and a girl rivet-catcher working on the pre-fabricated sections just placed in position

Kathleen Moore (right), a former canteen worker, and Mrs. Keaton, who work as ships' painters

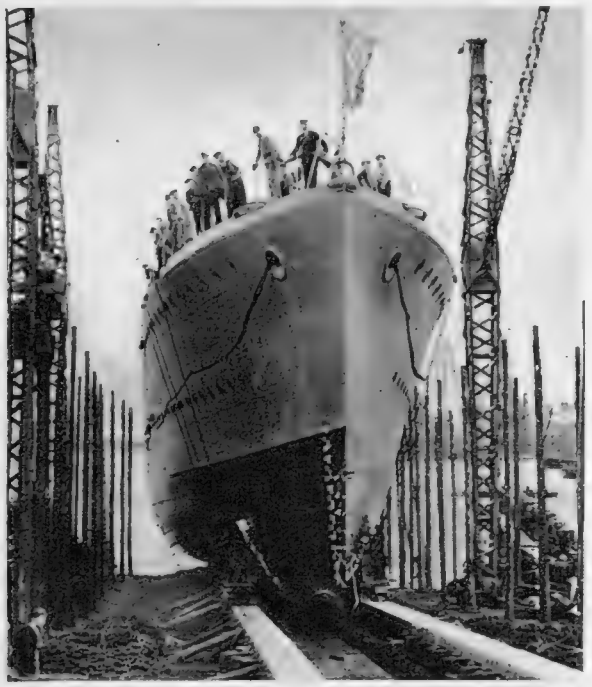
THE PRE-FABRICATED MERCHANTMAN IS NOW IN BEING, AND SHE IS READY FOR SEA—even to her stern gun! These vessels have all been designed with one object in view—to bring as big a cargo as possible to Britain at the best economical speed

ONE OF BRAZIL'S TWO BATTLESHIPS—THE "MINAS GERAIS"—ENTERING RIO HARBOUR. Just behind the vessel is the world-famous Pao de Assucar (or Sugar Loaf), where the entrance is less than a mile wide, although the harbour itself is nearly 30 miles wide. In the distance, behind the Sugar Loaf, is the Corcavado Peak, 2,329 ft. high, which is only approachable from one side

A RECENT PHOTOGRAPH OF THE BATTLESHIP "MINAS GERAIS": This vessel, which also figures in the large drawing by Mr. Montague Dawson, has a displacement of 19,200 tons: she was laid down in 1907 and completed in 1910, but was reconstructed and modernised in 1934-39. She is armed with twelve 12-in. guns, and carries a complement of 1,087

THE BRAZILIAN NAVY

Two Sphere Drawings of Some of the Vessels of Our Newest Ally



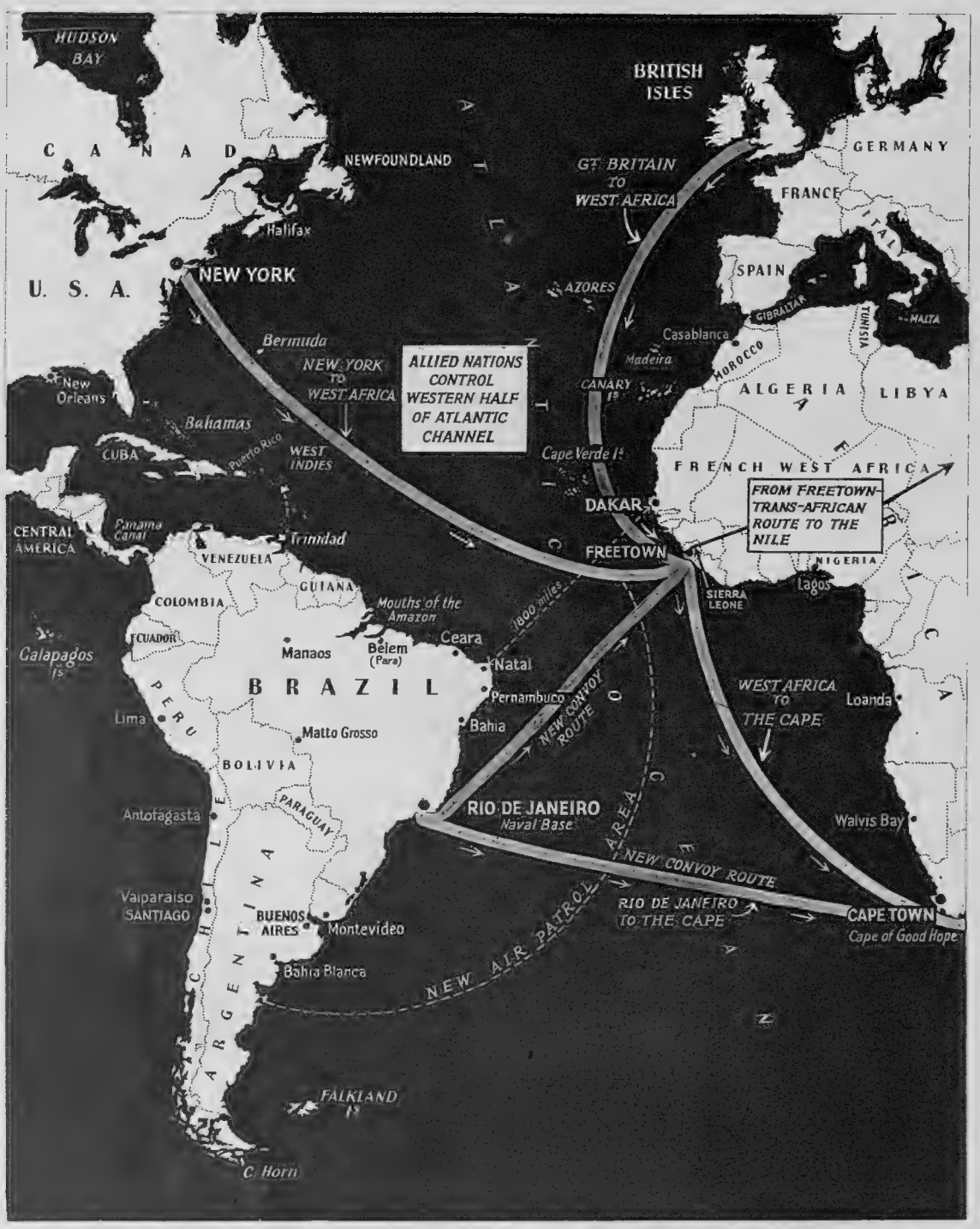
A BRAZILIAN DESTROYER IS LAUNCHED IN BRITAIN: The scene in Messrs. Thornycroft's South Yard at Woolston, Southampton, where the new Brazilian destroyer *Juruena* was launched in August 1939. She was christened by Señora Heitor Galliez, who acted as proxy on that occasion for the wife of the Brazilian Minister of Labour

***Below*—SOME OF THE VESSELS COMPRISING THE BRAZILIAN NAVY**—*Drawing by Montague Dawson*

From the left of this drawing are the following vessels—a Thornycroft-type destroyer; one of the two cruisers of 3,150 tons (the *Bahia* and *Rio Grande do Sul*); one of the six "Hero" class of destroyers, now being built in Brazil from British designs; one of the three destroyers, now being built at Rio from U.S.A. designs; one of the six Yarrow-type torpedo-boats; and (in the foreground) a Brazilian submarine.

The Brazilian Navy is by no means negligible—it possesses two battleships and two cruisers (recently modernised), and a number of smaller vessels which include the three new destroyers of U.S. design, six seagoing torpedo-boats, four submarines, and others.

Brazilian ports, including the naval base at Rio de Janeiro, can now be freely used by Allied warships; and enemy submarines are likely to be deterred from making use of inlets on the Brazilian coast



HOW BRAZIL'S ENTRY INTO THE WAR BENEFICIALLY AFFECTS OUR TRADE ROUTES IN THE SOUTH ATLANTIC, and the routes generally which converge on Freetown, key base on the West African coast. The possibility of effectively protecting wide areas of the South Atlantic makes practicable two new routes, from Rio de Janeiro to Cape Town and to Freetown—*A special* Sphere *map*

Our New Ally

BRAZIL ENTERS THE WAR

The Events Which Led Up to Her Break with Germany and Italy

BRAZIL declared war against Germany and Italy on August 22. She had been forced to take action after her ships had been persistently sunk by German submarines operating along the Western Atlantic coast. Protests brought no satisfaction from Germany, who continued to attack merchant ships, till the final outrage of August 17, when three ships were sunk, one being a troopship, with a loss of 700 lives. Anger blazed up in Brazil, riots broke out, German shops were attacked in Rio and demonstrations made in front of the Foreign Office. There was no question of the Government having to persuade the people of the necessity of war—the people clamoured for it and were wildly excited when the declaration was announced. Apart from the U-boat activities, there had been the discoveries during the past months of much pro-Axis sympathy among the Fifth Column party, and the large German colonies in South-West Brazil. Great indignation had been aroused when spy radio stations had been discovered.

This is the second time that Brazil has entered into war against Germany, and, strangely enough, she has joined the Allies at almost precisely the same period of the war—the last month of the third year of war—as she did in the last Great War—July 1917. Then she was the only one of the South American States to enter the war.

Why did Germany precipitate war with Brazil, adding yet another to her many enemies? The primary reason seems to be her faith in her submarines, which she believes can put a stop to all seaborne traffic and thus bring war to a standstill. Much heavy armament work has been given up in Germany in order to concentrate upon the construction of U-boats, which are being built in Central Germany, away from R.A.F. bomber attacks. They are only brought to the coast to be fitted out and to receive their crews, which are now having a specialised quick form of training. Just as in the last war, the Commander-in-Chief of the submarines is expected to bring about a final decision, and in consequence Admiral Donitz is said to be as great a popular hero as General Rommel. At the same time it was realised that Brazil was acting in close co-operation with the United States and that guns and aircraft were pouring into the country, which was being put into a state of defence. There was also a sense of chagrin that the German colonies in Brazil, well schooled and trained in Nazi methods, had not succeeded in bringing Brazil into sympathy with the Axis. These colonies had collected in three states—Rio Grande do Sul, Santa Catherina and Barana—and were managing them almost as fully-equipped German colonies, with their own schools, newspapers, charitable institutions, clubs and churches.

Directly after the declaration of war, the Brazilian Government at once took possession of the enemy ships which had sought refuge there in 1939. These consist of fifty-seven German and eighteen Italian vessels. A decree has cancelled the debt for the German-owned Condor Air Lines taken over last January. Stringent action has been taken against all Germans suspected of pro-Nazi sympathies, all German associations suppressed, their schools closed, and all newspapers have to be printed in Portuguese. Thousands of Germans and Italians have been arrested.

Vastly larger than any of the other states of South America, Brazil has a population of 46,000,000, representing half the population of the whole continent. Her people are of a mixed race half being white of Portuguese descent, the remainder consisting of Indians in the central region, many Negroes in Bahia and a considerable number of immigrants, Germans, Italians and Japanese. The country possesses great wealth in iron ore and rubber, all the surplus of which, not required at home, is being sent to the United States.

President Vargas, who has ruled Brazil since 1930, has instituted a form of dictatorial government, but without any resemblance to the severity of either the German or Italian totalitarian systems. He has been trying to set up a New State (Estado Novo), attacking the great evils of poverty, ignorance and disease, which are common problems of all Latin America. Brazil became a republic in 1889, when, by a bloodless *coup d'état*, the Empire of Brazil fell. Since then Brazil has been drawing closer to the United States, who is the largest customer for her staple products. The "Good Neighbour" policy of President Roosevelt has helped the policy towards mutual assistance of the republics against outside aggression. The last Pan-American Conference, held at Rio last January, brought about a declaration by nineteen out of twenty-one nations to break diplomatic relations with the Axis, in spite of a serious warning to Brazil from Germany and Italy that they would regard it as "a most unfriendly act."

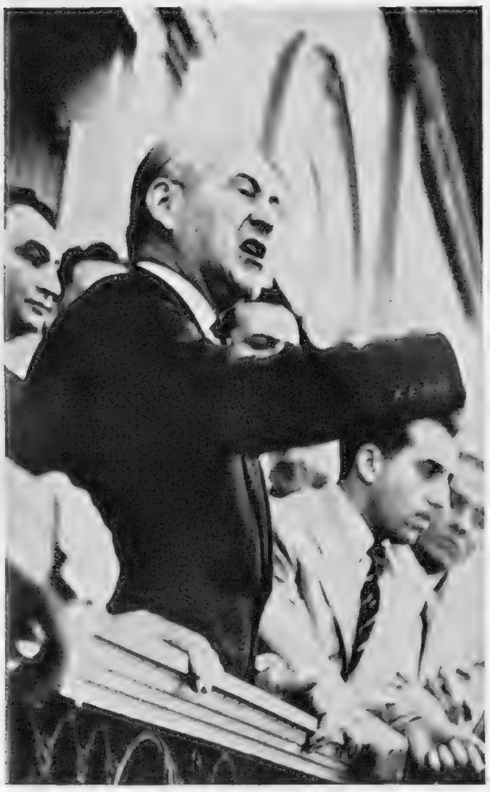
Not only has the action of Brazil in declaring war been of great moral value, adding 45,000,000 people to those who are actively engaged in fighting the Axis plan of life, but its position is of vital importance in the war strategy. What is known as "the Bulge" of Brazil narrows the South Atlantic from the Vichy port of Dakar, on the West African coast, to 1,700 miles—about seven flying hours. Naval airfields have been constructed and fortified on "the Bulge"—at Natal, Belem (near the mouth of the Amazon) and Pernambuco (Recife). Artillery, tanks and armoured

CAPITAL OF BRAZIL AND CHIEF NAVAL BASE OF THE BRAZILIAN NAVY—Rio de Janeiro, the great modern city of the South Atlantic coast where extensive harbours have been constructed within recent years

cars have been supplied by the United States, and new American aircraft have been flown to Rio for use in training and transport. It has been stated that Great Britain has handed over to Brazil six coastal-defence vessels, which were being built in Brazil (three of which are already launched) for use in hunting submarines. The Brazilian Navy is small, but adds some useful ships for the Allied cause. It consists of two battleships, two cruisers, four submarines and eight destroyers. The Army numbers 100,000 officers and men, with a reserve of 250,000, while the Air Force has a personnel of nearly 4,000.

War has not yet been declared against Japan, as no definite act of aggression has been made by the Japanese forces. But the Japanese colony in Brazil, 170,000, congregated about Sao Paulo, have caused much anxiety. They had been coming in their thousands every year, and had added to the growing prosperity of Brazil. But, like the Germans, they were under authority from Japan. It has been discovered that a secret army of 25,000 men were awaiting orders to attack Sao Paulo, to blow up railways and electric plants, and bring about general disorganisation. At Juquia, on the coast, about 100 miles south-west of Sao Paulo, a submarine base was found, with large quantities of fuel. The Japanese fishing fleet, with its fast motor-boats, was said to be under the command of officers of the Japanese Navy.

JUST BEFORE THE FINAL BREAK : A demonstration of solidarity shortly before Brazil declared war on Germany and Italy. This throng of Brazilians was enthusiastically displaying the flags of the United States and Brazil in front of the U.S. Embassy in Rio de Janeiro



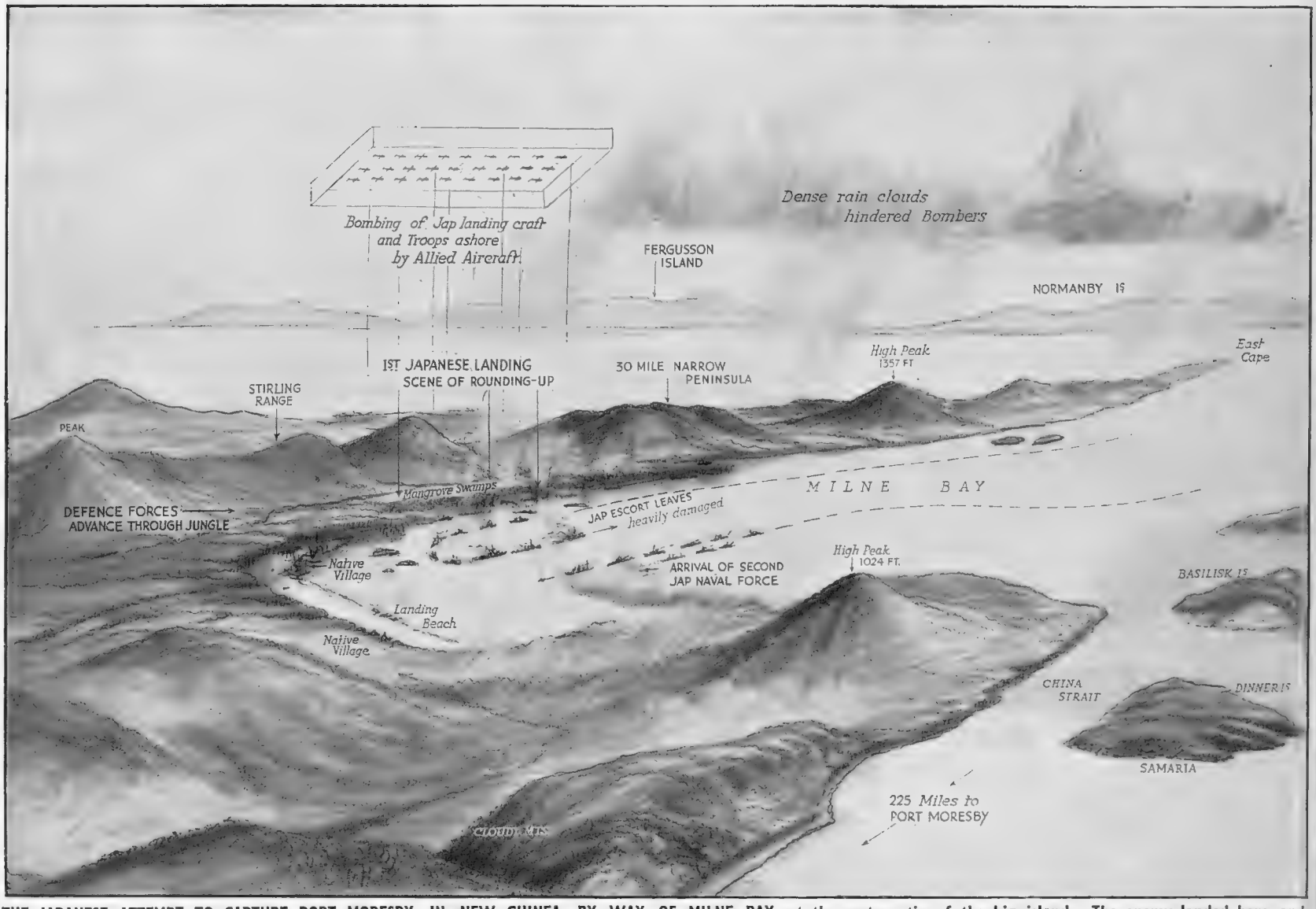
THE BRAZILIAN FOREIGN MINISTER, Dr. Oswaldo Aranha, on the balcony of the Presidential Palace, replying to the angry crowds which were clamouring for war with the Axis because of the sinking of Brazilian ships

BRAZIL'S PRESIDENT, GETULIO VARGAS (in centre), addressing the crowd from the Palace balcony at Rio on the country's stand against the Axis over the sinking of Brazilian vessels. Later President Vargas announced Brazil's entry into the war. The President has guided Brazilian policy for many years past

PERNAMBUCO (OR RECIFE) : The first aerial view ever taken of the port. The city is built largely on reefs and sandy islands : it is the outlet for a very wealthy region

BUILT WITH BRITISH CAPITAL—The cable-line from Santos to Alto da Serra : This is regarded as one of the world's most magnificent examples of engineering. In a distance of five miles the line rises over 2,600 ft. The cost of building was so great that it is called the "Golden Railway" : and, indeed, as four-fifths of the world's coffee supply travels over the line, it is "golden" in more respects than one! The cables by which the trains are handled are replaced every year. In order to protect the line during the heavy rains, an elaborate system of concrete and granite brickwork leads the waters safely under the tracks and into the valley below

b



THE JAPANESE ATTEMPT TO CAPTURE PORT MORESBY, IN NEW GUINEA, BY WAY OF MILNE BAY, at the eastern tip of the big island. The enemy landed here and established a strong-point, preparatory to moving on towards Port Moresby to the west. Under heavy attack from the air, however, the Jap naval escorts were forced out of the Bay, and Allied land forces then proceeded to "mop up" the Jap infantry. This diagram-drawing shows the beach at Milne Bay and the narrow peninsula on which the enemy were trapped—*Drawing by Percy Home*

The AMERICANS in ACTION in the SOUTH-WEST PACIFIC

The Battle of Milne Bay, at the Eastern Tip of New Guinea: And the Struggle for Supremacy in the Solomon Islands

When, on Wednesday, August 26, the Japs made a landing in strength in Milne Bay, at the extreme south-easterly tip of New Guinea, it at once became evident that the idea behind the landing was to attack Port Moresby from the land. With Buna on the north (where the Japs established themselves some time ago) and a good foothold in Milne Bay, the possibility of capturing Port Moresby seemed much more feasible.

But some such move had been anticipated by the defending forces: when the landing was made, the defence was not far away. Port Moresby is over 200 miles away to the north-west; the land connections consist merely of 3-ft.-wide passages through the island jungle. But these had already been penetrated. The question for the defenders was where exactly would the enemy decide to carry out his landing.

Milne Bay is a wide, spacious sheet of water; it is flanked on the north by a long, narrow peninsula some 30 miles in length, and on the south by a more massive projection of the land. At the head of the bay is a broader beach backed by jungle; here two native villages have been built of pole-perched houses, with boats drawn up on the beach below.

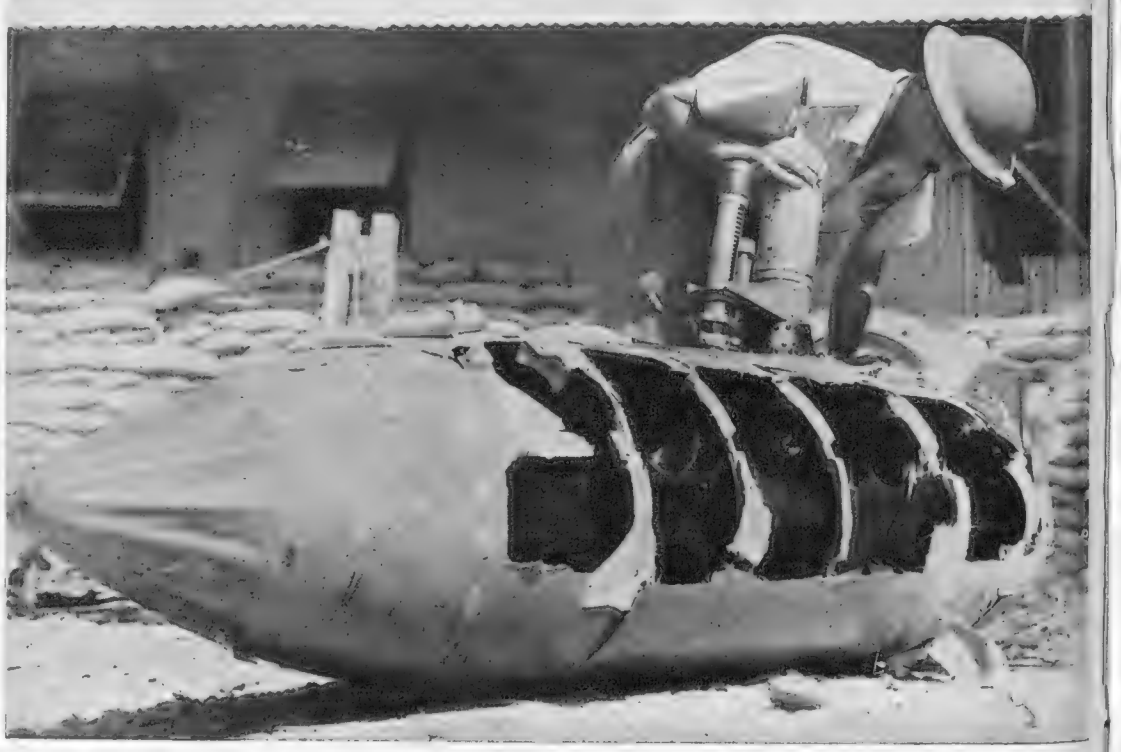
The Japanese, however, did not elect to land at this obvious spot, but chose a position on the shore of the peninsula, where the landing spaces are smaller and flanked by mangrove swamps. To right and left, boldly-outlined peaks rise into the clouds.

As soon as the landing-point of the enemy had been revealed, his landing barges and escorting naval craft were effectively bombed by Allied aircraft. A cruiser was badly damaged, together with a destroyer, and a number of barges were sunk. A lucky stroke for the Allies was the hitting of a big petrol dump, which blew up with a great report, flame leaping 1,500 ft. into the air.

This prompt attention from the air appeared to have induced a quick withdrawal of the naval escort, and the land forces were left to establish the desired strong-point on their own. Here, again, it would appear that the Japanese Command met with surprise; the land defence forces were upon them in disturbing strength. The choice of landing-point had not proved a wise one. The defence was blocking the ways leading to the wide end of Milne Bay and the forest tracks towards Port Moresby. What was to be done?

Later, when the defence was doing its work on land, another Jap naval flotilla appeared: this consisted of a cruiser and eight destroyers. Were they reinforcements or a relief expedition? It would appear that the Japanese had determined to cut their losses and retrieve what they could of the land parties. This they only partially succeeded in doing. The Australian land forces were soon engaged on the very satisfactory task of "mopping-up." The Japs left on the island were "parcelled off" into small groups, and were dealt with in satisfactory fashion.

According to later reports from New Guinea, the size of the Jap forces which effected the landing at Milne Bay made it an effective fighting formation. The actual landing was carried out from three transports, two of which probably carried equipment. Only a very small number of tanks, however, were landed.

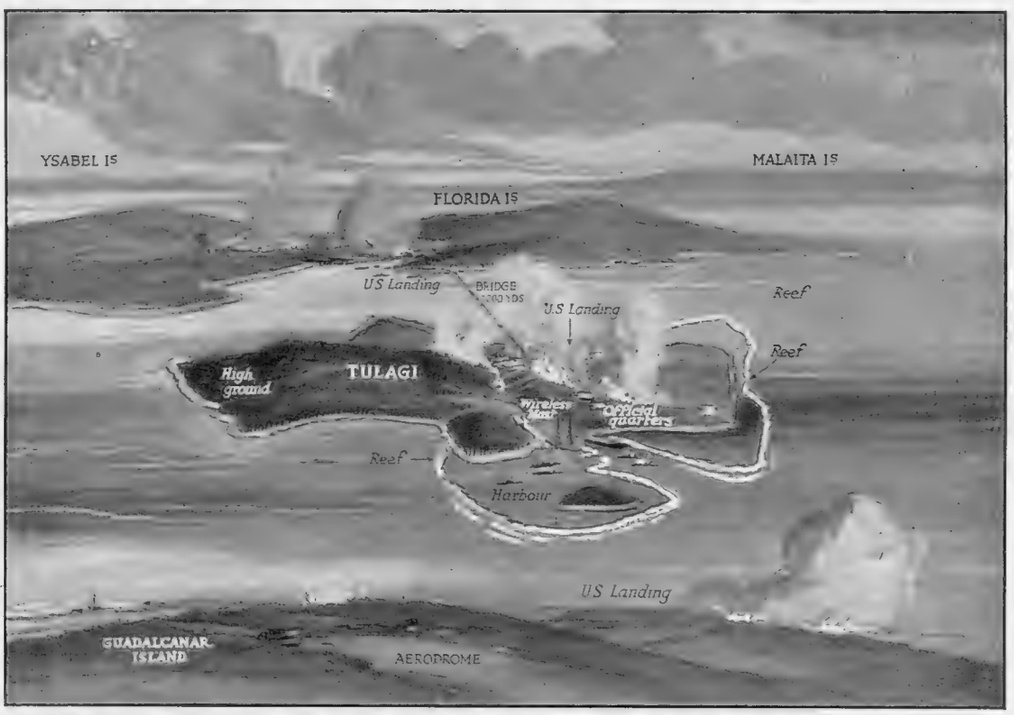


***On right*—A JAP IDEA EMBODIED IN THEIR "ZERO" FIGHTER AIRCRAFT:** This is a piece of Japanese flying equipment; it is an auxiliary petrol-tank fitted to the underside of the Zero fighters, and it can be jettisoned when the fuel has been used up. It is made very cheaply of wood; its employment greatly increases the range. The Zero is amongst the more modern of the Japanese Navy's aircraft: it has a speed of 315 m.p.h. and a maximum range (with this belly-tank) of 1,600 miles. The picture reproduced here was taken in New Guinea, whilst a member of a Repair and Salvage Unit was examining the apparatus

THE U.S. MARINES LAND ON GUADALCANAR ISLAND, IN THE SOLOMONS, FROM LANDING BARGES: Hundreds of fast landing boats, amphibian tractors and other new equipment left the transport under the protection of a hail of shells poured from destroyers. Effective use was made of the new U.S. ramp for landing tanks from lighters, and of the amphibian tractors which the Marines call "alligators." (This picture was sent by radio)

In the early morning of August 7, the U.S. Navy opened its attack in the Solomons: Tulagi, Guadalcanar and Florida Islands were singled out for special attention. By August 10 the Marines, famed fighting Corps, had overcome all major opposition on Guadalcanar Island. Tulagi, which the Japanese were converting into a naval base, was also captured—as was Florida and other lesser islands. Later, the enemy landed reinforcements on the islands—the biggest was 700 Japanese landed at Guadalcanar—but these, too, have now been wiped out. In making their assaults, the U.S. Marines made effective use of tanks, amphibian tractors and other new equipment. When the Americans moved into the hastily-abandoned enemy camps, they found meals still on the table. Ammunition dumps, guns, fuel, radio equipment, trucks, refrigerating equipment, road-rollers, electric power plant—all were found just as the Japanese had been using them

A U.S. TANK making its way to a forward position on Guadalcanar Island: On the right of this wirelessed picture may be seen a party of American Marines resting during a lull in the fighting



WHERE THE THREE LANDINGS IN THE SOLOMON ISLANDS WERE MADE BY THE U.S. MARINES: Tulagi, Florida and Guadalcanar Islands are all close together, surrounding the very useful harbour where the Japs had firmly established themselves. All three islands are now in American hands—*Drawing by Percy Home*

A VIEW OF THE REEF-BOUND COAST OF THE LARGE ISLAND OF GUADALCANAR, IN THE SOLOMONS GROUP. It is here that the Japs have been dislodged and the U.S. Marines have established themselves. Counter-attacks by the enemy have so far been unsuccessful, although the final result may still be in doubt, as the Japs have been reported as massing for still another assault on the Islands

LOGISTICS IN THE DESERT

How the 8th Army is Fed and Supplied by the R.A.S.C.

Possibly it was the Battle of France that gave the Royal Army Service Corps its new pride. Till then foolish people had still been raising eyebrows when they heard So-and-So was a member of this branch. But the Battle of France, with its many incidents where R.A.S.C. drivers, mechanics, even bakers and clerks fought the enemy to a local standstill, altered all that. And Libya has recently given the Corps, among soldiers of the 8th Army at least, the fame almost of Commandos.

This is because of the chaotic condition of the entire military organisation after the Cyrenaican disasters, when, as General Wavell had predicted long before, the lives of thousands of men, indeed, of the last remaining men between Rommel and the Nile Valley, depended upon *logistics*—that science of moving and sustaining troops which is the R.A.S.C.'s special concern. Forward dumps of ammunition, petrol, water and food had been destroyed, right down to Mersa Matruh. Between Mersa and the Nile Valley there was more to be had, and a great store in the Nile Valley itself, but it was not ready in the right places. Still more important, hundreds of trucks had been lost in the western battle.

The gunners stood resolutely in their rock-holes; the remaining tanks went out into the desert again and again to lead the advance-guards of the invaders astray; the troops dug their shallow trenches and prepared to fight to the last. But the gunners had little ammunition left; the tanks had practically exhausted their petrol; the troops were hungry and thirsty.

German and Italian planes were over in force, for the first time in this sector, and, despite swift interception by our fighters, were bombing something good and hard. The scene was obliterated by dust and smoke. Then a little convoy of vehicles emerged from the inferno, driving at high speed over the rough ground. Some of them had partly-smashed cabs, and many had Bren guns spitting against the sky, one was actually on fire as it plunged ahead. It was a real case of running the gauntlet, especially as Jerry began to get the range of the lorries' pathway with his big guns from the distance. But nearly all the vehicles got through; and they were, of course, the R.A.S.C., heavy with the supplies that the forward troops used immediately to stave off disaster on the very threshold of Suez.

Truck mileages ran up into hundreds and thousands as the Corps went on after that initial effort to cart forward around the new positions everything from reinforcing tanks to live sheep for Indian cook-houses. Yes, even the Royal Armoured Corps, with its own transport and repair organisations, is dependent on the R.A.S.C. for swift reinforcements, brought up on huge vehicles like steel platforms on wheels by special Tank Transport Companies. Great skill is required in driving and superb teamwork in loading and unloading these.

There have been, there are, sections of road or track-way in the Western Desert just as bad as, if not far worse than Hell's Corner. A military policeman is permanently stationed (grim soul) at the beginning of a stretch. He only allows one truck to cross that pitted 3,000 yards at a time, and the shells crunch ahead as he gives the driver directions. Then, as if he has just interrogated an A.A. patrol at home, the R.A.S.C. man drives on.

When it is considered that hundreds of R.A.S.C. vehicles are required for a single armoured division, that the Corps recently put some Indian auxiliaries on to filling 10,000 petrol tins a day for swift transportation afterwards to the front line, that the final fighting in Tobruk town was mainly done by R.A.S.C. men—together with other "ancillary" services—and when it is remembered that prior to this campaign the Corps had always planned for at least part of its work to be done on rails, then the recent achievements in Libya appear in their true light.

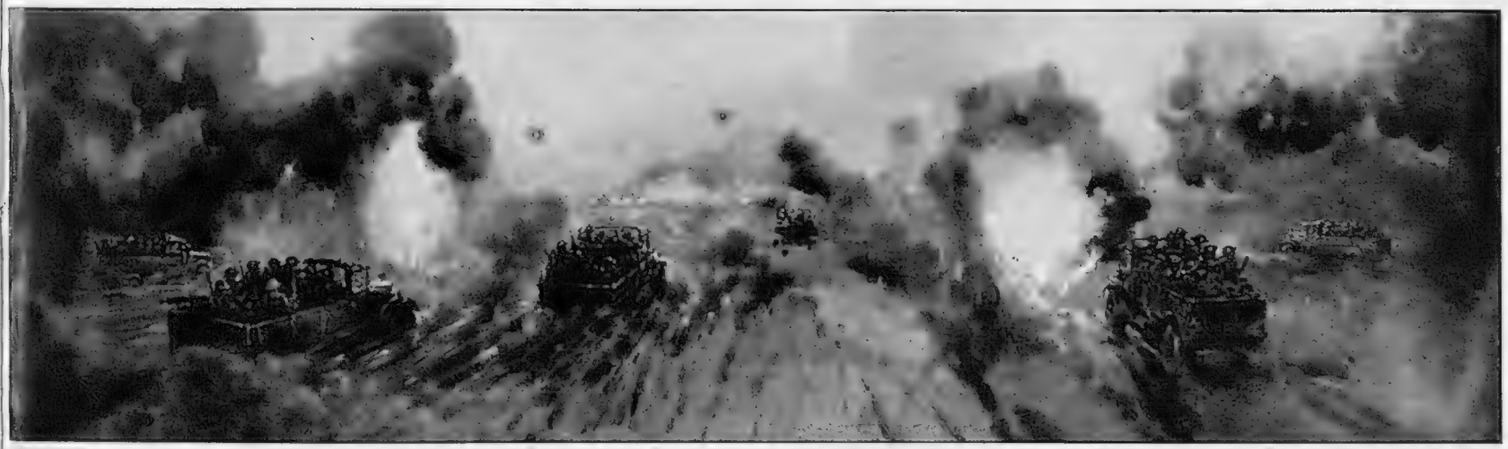
Lest this seem just a pæan of praise it must be said that the Corps has sometimes failed, as at Jedabia last year, when the special correspondent of *The Times* wrote: "It is believed that our failure to destroy the enemy at Jedabia, and thus completely achieve the desired victory, the 'destruction of the enemy's entire armoured force,' has been due to difficulties in maintaining supplies." That was, for a variety of reasons, so; but it demonstrated effectively just how important the work of the R.A.S.C. is.

Then they will establish careful dumps of ammunition, petrol and food in the desert, leaving a few men on guard. A strong raiding party comes out from Rommel's lines, or drops from the skies (this has happened), and R.A.S.C. storemen must fight a picked gang of the first thugs in Europe. Or, to leave Libya and comprehend the world-wide organisation of the Corps, consider how Alexander's men were fed and reclothed in Manipur after Burma; how the Dunkirk men were met and made soldiers again; how the raiders of Dieppe were equipped before they started and catered for afterwards. It is often unregarded, it is sometimes derided; but it is always vital, frequently dangerous, and never will it be possible to win wars without it—the R.A.S.C.

Donald Cowie

A DRINK IN THE DESERT: BUT THEY HAD TO CAPTURE A GERMAN TANK TO GET IT! An adventure, just recounted by a participant, of an incident which occurred during the fighting in Libya near Bir Hacheim in June—*Drawing by Edward Osmond*

A British soldier (who hails from Aldershot) was sitting near the Bir Hacheim track in June last, hot and dusty and tired: three others were seated nearby. All were engaged in a purely academic discussion concerning bottles of beer and what could be done with them—if any were, in fact, in existence in that part of the world! Suddenly, one of the four got up and pointed to the south: lurching their way, came a German Mark IV. tank and a truck. All that the four British soldiers could muster was an anti-tank rifle and a couple of dozen sticky bombs. They let fly at the truck first, and the anti-tank rifle scored a hit with the first round; but the tank still came on. Then one of the men seized the bombs and darted in: he flung two and the tank flared up; very soon, out came a couple of Germans who started to run—but only for some five yards! Meanwhile, the others had worked round to the truck, in which they found ten bottles of lager. The Germans must have seen the soldiers opening up a bottle, for they came in, after a very short delay, with their hands up



Above and on left—**THE R.A.S.C. IN THE EGYPTIAN BATTLES: *Above*—Racing lorries crowded with fighting men through an artillery barrage into action; and, *on left*—bringing out a lorry which had been damaged in the engagement**—*Drawings by W. G. Whitaker*

The two drawings reproduced here illustrate one phase of the difficult and dangerous work undertaken by the R.A.S.C. in the Egyptian fighting. The drawing above shows how men of a Yorkshire Regiment were taken in trucks into action: the regiment moved off in several lines, with wide intervals between the vehicles. "Soon we came under heavy shell-fire," related one of the R.A.S.C. drivers concerned. "One lorry carried on with flames pouring out from underneath, but the men sat on—laughing and chatting—until the flames became too fierce. We raced through the artillery barrage into machine-gun range with the enemy pumping everything he had at us. . . . Finally we got an order to withdraw to the shelter of a small ridge about half a mile away. I stayed to see that nobody had been left behind, and to try to save one of our trucks which was not too hopelessly smashed up. Another truck nearby with a load of high explosive was on fire. At last I got a tow-rope fixed on to the cripple, and we went off with the enemy giving us a nice warm send-off. After a while the infantry came back, having given the enemy a good dusting. We then returned to the brigade concentration point, ready for the next job"

HOW THE CATASTROPHE OCCURRED: *On left*—the position of the "Normandie" resting on the mud at low tide when the fire started. *On right*—her position at high tide, after she had capsized owing to the thousands of tons of water poured into her hold—*Drawing by Wm. McDowell*

The fire in the *Normandie* started on February 9, 1942, when the huge vessel was lying alongside Pier 90 and in the course of conversion into a troop-carrier. The tide being low, the ship, which has a draught of 40 ft., was resting on the mud bottom of the dock. Every available fire-float, fire-engine and pump was brought into action, and thousands of tons of water poured on the flames and the red-hot hull. Unfortunately, as the tide rose and lifted the ship from the mud, it was seen that the water which had been pumped into the blazing ship had run down into the lower compartments and impaired her stability, so that she heeled over on her port side and came to rest at an angle of 80 degrees

SALVING the "NORMANDIE"

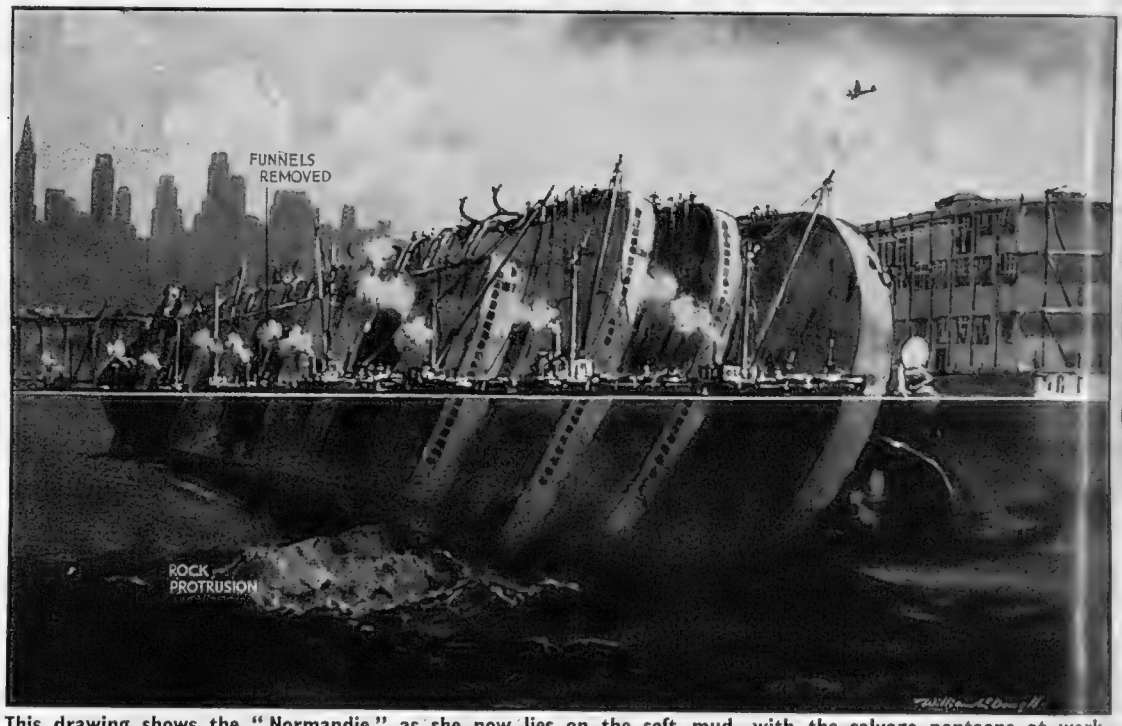
America is Still Determined to See Her Sail Again as a Troop-Carrier

By A. D. McCRACKEN

—And Other Items of Naval and Mercantile Interest

WHEN the *Lafayette*, as the Americans had re-christened the crack 83,000-ton liner *Normandie*, caught fire and capsized in the North River, New York, she was within a few days of being recommissioned as a troopship. When it became known that it was no act of a daring saboteur that had robbed the United States of so fine a vessel, but the plain carelessness or "dumbness" of an acetylene welder, a wave of indignation swept the whole country. The salvage of the vessel, public opinion demanded, must be achieved, cost what it may.

The *Normandie* caught fire on the afternoon of Monday, February 9, 1942. The fire got a firm hold on two of the upper of the vessel's seven decks, and water was poured in both from fire-floats and from pumps on the docks alongside. It was low tide when the fire started, and the huge liner, drawing about 40 ft., was resting on the mud alongside Pier 90. By the time the tide turned, thousands of gallons of water had been poured into the upper decks of the giant liner, and it was seen that instead of floating truly on the rising tide, she was slowly keeling over on her port side. Hasty attempts were made to cut holes in her sides to let the trapped water out, but without success, and the vessel finally came to rest at an angle of 80 deg., so that



This drawing shows the "Normandie" as she now lies on the soft mud, with the salvage pontoons at work. Her funnels are cut away, and three gaping holes mark the place where once they stood—*Drawing by Wm. McDowell*

"Although the bulk of the vessel is resting comfortably on soft mud, a ridge of hard rock runs under the vessel towards the stern, and the stress-loading of that part of the vessel is already high. If anything is done during the salvage to disturb the mud bottom, or if the stern of the *Normandie* is allowed to sink any deeper, there is danger that she may break her back on the rock. . . ."

THE SIXTY-MILLION-DOLLAR LUXURY LINER RESTING ON HER PORT SIDE after rolling over at her Manhattan pier. She had just been taken over by the U.S. Navy and renamed the "Lafayette." Previously she had been listing precariously; as she rose on the tide, she turned over to her present position

passers-by on the neighbouring wharves can now virtually look straight down her funnels. In this position she has remained for over six months, and become as familiar a sight to thousands of commuting New Yorkers as Tower Bridge is to Londoners.

But although little visible has been done towards the salvage, a great deal of preparatory work has actually been accomplished, and may soon begin to bear fruit. So unprecedented were the problems created by the size of the huge vessel, and the position in which she is lying, that a special committee, including three U.S. Navy Admirals and a professor of engineering from Yale University, spent three months in a preliminary survey, which even included making trial borings and analyses of the river bottom on which she was resting.

The actual salvage commenced under Commander W. A. Sullivan, U.S.N., in June, and though the work has naturally not yet proceeded far, it has not yet encountered any snags grave enough to suggest that it will not eventually succeed. But that is not to say that many serious difficulties have not already arisen, the removal of which will try Yankee ingenuity to the uttermost.

In the first place, it would have been difficult, even in peacetime, to recruit an army of trained divers and salvage engineers comparable with the size of the job. This has proved quite impossible in wartime, when the calls for such men are naturally magnified a hundredfold. No other solution existed but to set up a diving and salvage school on the pier alongside the vessel, and set about training men who had never previously worn a diving-suit in their lives. Fourteen young U.S.

Navy officers and seventy-five engineer ratings are now being trained as undersea workers.

One very serious snag was discovered very soon after the fire. Although the bulk of the vessel is resting comfortably on soft mud, a ridge of hard rock runs under the vessel towards the stern, and the stress-loading of that part of the vessel lying on the rock is already high. If anything is done during the salvage to disturb the mud bottom, or if the stern of the *Normandie* is allowed to sink any deeper, there is grave danger that she may break her back on the rock.

After very careful study, the U.S. Navy experts have decided that it will be possible to refloat the *Normandie* by controlled pumping. By this method, buoyancy can be restored to the various portions of the ship, and her list and trim as she refloats and rights herself will always be under control.

The work is not so simple as it sounds. At least 10,000 cubic yards of mud entered the ship through open ports and hatches as she sank, and all this has to be removed. Not only this, but most of the superstructure of the vessel, masts, funnels, boat decks, virtually everything above the promenade deck, must be cut away. If this were not done,

Another view of the capsized "Normandie," showing the square construction of her hull

when the vessel did float she would swing right over with a vicious pendulum-like swing to her other side and back again. Under such a strain, her huge turbines and motors might well break loose from their fastenings and do incalculable damage below. Other jobs on Commander Sullivan's programme include:

Removal of all inflammable materials, stores, miscellaneous woodwork, etc., above water and provision of ladders to give the required accessibility.

Cleaning out the under-water portions of the vessel to provide accessibility needed by the divers.

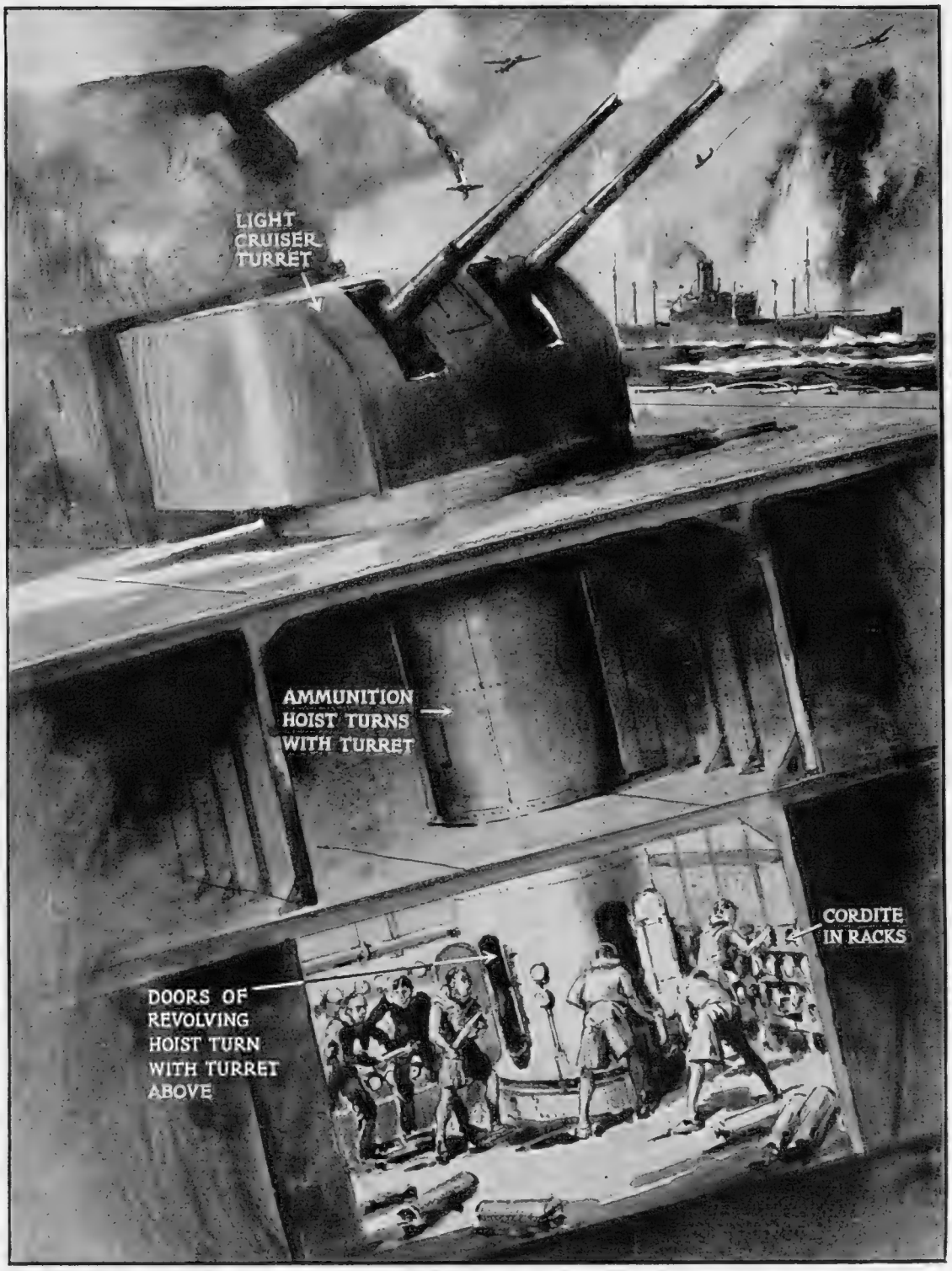
Closing with timber, steel or concrete patches approximately 375 air-ports, fourteen cargo ports and scores of scupper and drainpipe openings under water in the port side of the ship.

Closing with timber, steel or concrete patches about 500 various openings in the port side of the promenade deck.

Tracing and closing miscellaneous vent trunk-heads, uptakes, etc., as necessary. Searching out, inspecting and making tight all under-water manholes to tanks.

Removing a section of the outboard end of Pier 88 to permit the vessel to right itself, and replace when salvage is completed. Dredging the slip to restore it to usable condition.

Installing the necessary pumps and a system of suction and discharge piping to permit the water-level in each of the sub-divisions of the ship to be under control at all stages of the operations.



BELOW DECKS AS THE MALTA CONVOY FOUGHT ITS WAY THROUGH: A sectional diagram showing the after guns of a cruiser in action, and (below) the magazine and revolving hoist which conveys the charges and shells up to the turret and which turns with it—*Drawing by Wm. McDowell*

It may not be generally known, perhaps, that when a warship's turrets begin to turn in order to bring the guns to bear on the target, the whole mounting also turns. As the turret revolves, the men below who feed the ammunition hoists have to follow it round and round, in the manner shown here. In a heavy sea, as during the Battle of the Malta Convoy, every time the wheel is put over to dodge the bombs, the magazine heels over at what seems a sharp angle—if one has an 80-lb. shell in one's hands and one's feet are sliding on a film of oil dripping down from the pump! Doors in turret and in the ammunition chamber itself prevent the dangerous "flash-back" down the hoist from setting off the charges stored below

Though the list admittedly sounds formidable, and most of the work will have to be done not by salvage veterans but by men who have never even seen a wrecked ship before, the American Navy is confident the giant vessel will be afloat and in service in time to play a part in the defeat of the Axis.

Above—**ANOTHER CASUALTY IN THE ATLANTIC:** This ship, in a sinking condition, was sighted by patrol planes of the U.S. Navy. They came from the Banana River Naval Air Station, and arrived on the scene just as the merchantman was breathing her last gasp of air before going down into "Davy Jones's Locker"

On left—**THE UNSINKABLE MOTOR LIFEBOAT:** This new craft (in a street in Stockholm) has been constructed by the Engsbergs Shipyard. It is about 21 ft. long, 8 ft. wide, and has a maximum speed of 5½ knots when carrying its full capacity of 32 people. The boat has been tested and approved by the Swedish naval authorities; it has already been adopted by many Swedish shipping lines

I. WHY THE RIVERS OF RUSSIA HAVE NOT PROVED THE EFFECTIVE BARRIERS WHICH MANY EXPECTED THEM TO BE: On the face of it, the defenders—with a wide moat in front of them—should be able to strafe unmercifully the infantry in boats as they attempt to gain the opposite bank. This is what *should* happen to the attackers, but in actual fact the defenders are not always capable of bringing about such a holocaust, for the reasons detailed in the accompanying article and in the other drawings on these pages—*Drawing by E. Byatt*

The Campaign in Russia

HOW the RUSSIAN RIVERS ARE CROSSED

An Explanation of Some of the German Successes in the River Countries of the Don

By DONALD COWIE

—With Special Sphere Drawings and Diagrams

THE point that must be puzzling intelligent people is not the actual bridging method employed—the work of the engineers is familiar—but how the defences on the opposite bank are overcome. It may seem incredible that men can cross a wide river and gain a foothold on the other side in the face of withering fire from long-prepared defences, as the Germans have so often done recently in Russia. It is a point that can only be understood by those who appreciate both the conditions of modern warfare and the character of rivers.

The conditions of modern warfare include devices for obscuring a scene and for concentrating huge quantities of high-explosive, via artillery and dive-bomber, on a given spot. The character of rivers is most varied, with high, overhanging banks here, admittedly, but low beaches and swampy water-meadows there. Meanwhile, however, the idea persists in the minds of defenders that rivers, like mountains, can be counted upon to relieve them of a certain part of their responsibilities.

The potential river-crossers, on the other hand, are inspired by the very presence of the obstacle to supreme efforts of cunning and endurance. Obstacles have always had this effect, from Troy Town to the Heights of Abraham, from Gallipoli to Keren.

To cross a river successfully, combined pertinacity and strategem are needed. To get down to details, and those relevant to the recent happenings in Russia, the pertinacity covers not only repeated hammering at the defenders on the other bank with high-explosive—the guns can get the range of these fixed defences and hold it—but also very careful reconnaissance to find a place where the other bank is low and not so strongly defended.

When the Germans came to the Don bend they had the choice of approximately 100 miles of variegated bank for their main crossing-place. The Russians had to be fully prepared on every yard of those 100 miles. The Germans could concentrate their assault on a few yards. So they found the weakest spot and waited till night, or made their own night out of day by smoke-screens. The artillery pounded that opposite bank to pulp in a few minutes and the dive-bombers swooped. Parachutists went over to take the defenders in the rear. *Then* the engineers launched their boats and thrust out their bridges, and then the grey forms pressed forward and across.

It was said at the beginning that enough is known about the actual boats and bridges. But it is worth noting that methods have been immensely improved of late. The Russians have repeatedly ascribed their riparian disasters to a new kind of pontoon bridge the Germans have been using. The novel feature of this is that the surface is often 2 ft. below the water-line; this has the advantage of concealing the structure without preventing tanks and lorries from using it.

Then amphibian tanks have been used against particularly stubborn river defences—tanks with small paddles on their caterpillars, bodies made of light duralumin, capable of carrying twelve men and a heavy gun, speed 25 m.p.h. on land and 10 in the water, complete with a protruding spar that forms a ramp on the opposite, overhanging bank, up which the machine can crawl. We ourselves had such engines ready, though without the capacity for swimming on their own, in

RUSSIAN TACTICS IN THE WATERY REGIONS TO THE SOUTH OF VORONEZH: On certain stretches of the Don River, the Russians have indulged in daring tactics to attack the opposing Hungarians. They have moved tanks at night across the rivers without the enemy getting wise; each time a Red tank crossed, the bombers roared overhead, drowning out all other noises. Many infantry units which followed did not wait for pontoons, but waded the river, carefully holding their rifles above the water—*Drawing by E. Byatt*

II. **ONE OF THE REASONS WHY THE RIVERS OF RUSSIA HAVE NOT STOPPED THE GERMAN ADVANCE: The enemy masses at a position chosen by himself along a wide front; he then begins to launch his boats, and, at the same time, begins his first essay in the construction of a pontoon bridge. Smoke-screens aid in this work, baffling the aim of the defending artillery. Whilst all this is in progress, the defenders are heavily shelled by the German field-artillery, hurriedly brought up to the opposite bank, and dive-bombers come roaring down out of the sky; both these latter arms are used in strong concentration**—*Drawing by E. Byatt*

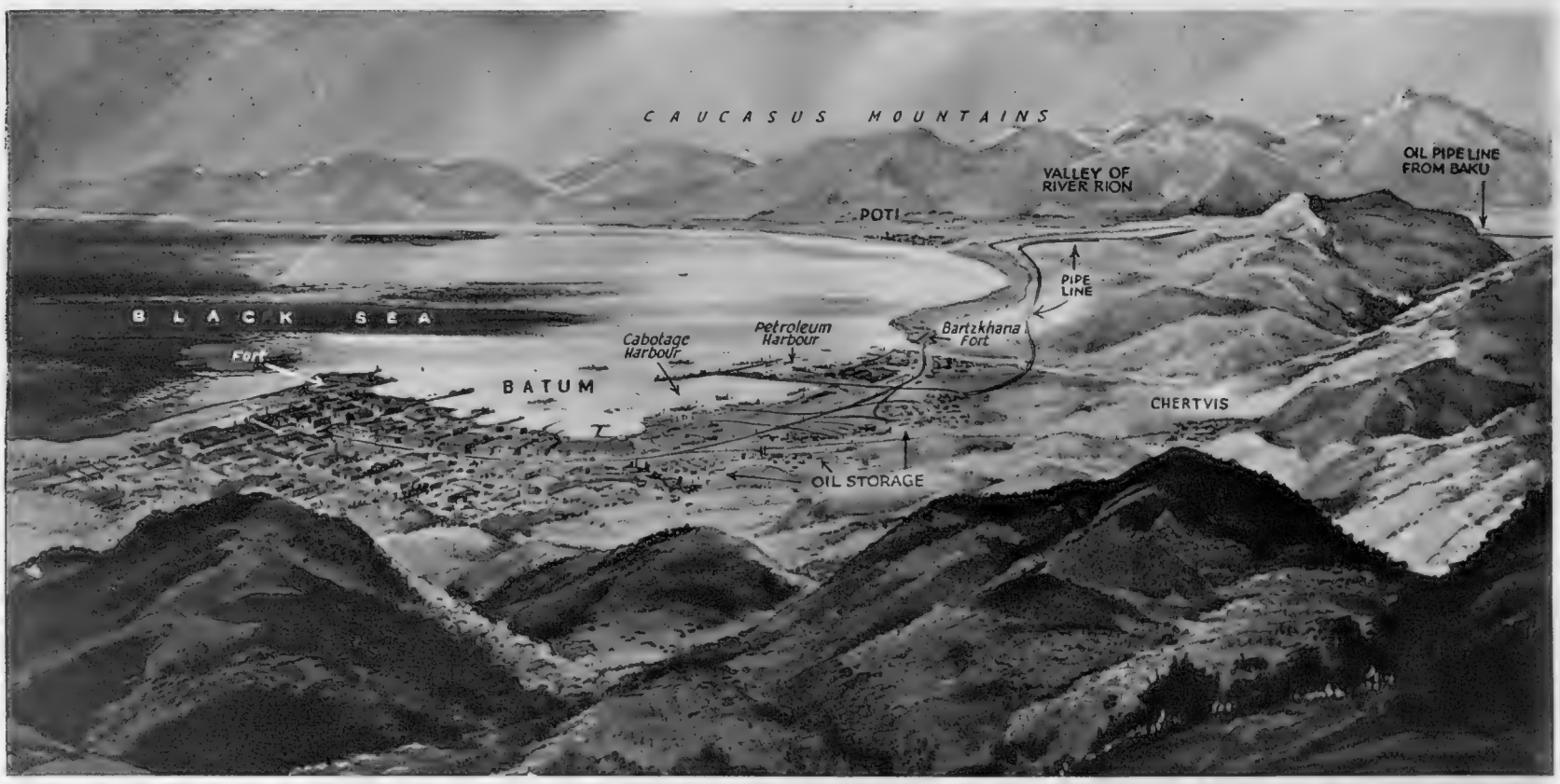
1917, when we were devising an abortive plan for landing south of Ostend and taking the German lines in the rear.

Part of the regular routine at the School of Military Engineering in the Northern Command to-day is the crossing of rivers with Bren carriers so equipped with floats that they can charge into the stream and "swim" under their own power.

The South Africans in Italian Somaliland came to the Juba, and both the permanent bridge and the pontoon ferry were gone. The Italians were heavy on the opposite bank. No pontoons or boats were ready, and the engineers reported it might be some time before they were. Meanwhile Italian artillery smashed at the thin South African column as it crouched in sand-dunes. So some Transvaalers went up the river, a long way, till they found a ford, across which they gingerly waded. Armoured cars behind them, parked with guns pointing across, laid down a barrage, and the Transvaalers, with a little loss, made the watery journey. Then they tore down the opposite bank and hurled themselves into the Italian rear, creating such a diversion that when the pontoons did arrive they could be thrust out at once. Italian Somaliland was taken at that place, for the defenders had been sure the Juba would present an impassable obstacle.

The fickleness of rivers should be finally revealed in that anecdote. Many commanders have said they would prefer to have no rivers at all in their defence scheme—they are too weakening. They encourage concentration and dependence, and, when they are gone, there is nearly always a quick roll-up. Indeed, a very good plan might be to keep one's troops on the enemy's side of the river. The difficulty of retreat might then lead to a really resolute stand.

III. **THE REAL HOPE OF THE DEFENDERS IS TO CONTAIN THE BRIDGEHEAD: If this can be done, a counter-attack can later be launched from both sides of the landing-point when a first exhaustion of the enemy appears to be imminent. If the counter-attack is successful, the entire bridgehead can be nipped off by the two arms of the pincers closing in simultaneously from both sides**—*Drawing by W. G. Whitaker*



BATUM, THE VITAL OIL PORT IN THE CAUCASUS, WHICH THE ENEMY WOULD LIKE TO SEIZE. This view shows the port as seen from the southern hills of the Caucasus, flanking the valley through which the pipe-line runs from Baku. From the latter Batum receives a much bigger supply by pipe-line than anything the Germans can get from Grozny. Its harbour and storage facilities are also considerable—*Drawing by E. G. Lambert*

Pipe-line and railway into Batum both follow the coastline for some distance from this port. To the north lie the foothills of the Caucasus Mountains, stretching down to the Black Sea at Tuapse. So closely does the mountain range hug the Black Sea coast that the only feasible route to the south is by winding roads, thickly wooded, between which descents have to be made to watercourses spanned by bridges, which should be capable of easy demolition. Batum is a thriving port: the pipe-line from Baku brings so much oil that Grozny's output sinks to insignificance beside it. But not only is Batum an oil port: from there and from Poti, to the north, manganese and copper were also shipped to Russia in quantity. Batum is a cosmopolitan town with a mixed population of Georgians, Armenians, Tartars, Turks, and many other nationalities

THE GERMAN THRUST TO BAKU: By way of Grozny the going is very difficult, owing to the big marsh area which surrounds that oil-field: farther south lies the Caucasus Mountains, which also present considerable difficulties to the invader

During the past few weeks the whole region north of the Caucasus appears to have experienced a heat-wave. Whilst the dry weather lasts, cross-country movements are possible, but as soon as rain sets in the transport of heavy vehicles is wellnigh impossible once the few macadamised rocks are left. Winter brings a doubtful respite, for snow causes drifts that periodically close the railways and block the roads, notwithstanding the use of snow-shields on the steppes.

Although very regrettable, the loss of Grozny, with its refineries (like that of Maikop and the Black Sea ports of Novorossisk and Tuapse), would not constitute a knock-out blow for the Russians; and, without doubt, the Germans have in contemplation the capture of Baku. Unfortunately, it is not until the Caspian Sea port of Makhach Kala is reached that serious geographical difficulties would be encountered; from thence onwards for 100 miles the mountains so closely approach the coast that there is often only a few miles of marshy swamps separating the two. Unlike the foothill country farther west, the mountains here are formed of hard limestone, weathered into fantastic shapes and deeply gouged by ravines.

Assuming that the mountain passes will be adequately protected, the very important oil-fields and refineries of Baku can only be reached by the Caspian Sea route, or from Batum or Poti on the Black Sea. Still yielding about 70 per cent. of Russia's oil supply, the Baku installations are likely to be strongly protected, for from there oil products are conveyed by pipe-lines to Batum, to Persia and Turkestan, but mainly to Astrakhan, for transhipment into Central Russia.

The Campaign in Russia

WRECKING the OIL-FIELDS

How a Highly-Technical Job is Carried Out

IF well carried out, an oil-field can be made completely unproductive for the best part of a year. The great factor is time, for complete wrecking of a large oil area is a job which must be set about methodically by an army of highly-trained experts, with methods varying according to the geology of the country and depth of the wells. If only a few hours are available, all that can be done is to set the wells alight, by exploding small charges of explosives in the upper part of the casing. If the wells are "flush" or free-flowing, they will burn for weeks, even months, and may defy all efforts to extinguish them in that time. In the Russian fields, where the derricks and drilling rigs are still principally of timber construction, fire would be particularly potent.

Granted a little more time, say a day or two, the whole of the well-head and pumping gear can be wrecked by explosives. Charges lowered 50 ft. or so down the well, and then fired, ensure the bore being jammed by a mass of rock through which no oil could possibly find its way, and which will take weeks to clear by drilling. An ingenious alternative, which Russian engineers are reported to have adopted at Maikop, is to pump large quantities of quick-setting cement into the bores. When this is done, the only way of getting oil out of the ground again is to drill a new bore—a process which may take weeks or months even when only natural difficulties are encountered. If one assumes that even German experts, in war-time, will hardly reach the speed of an experienced American drilling crew in peace, and if Russian bombers and guerillas are able to do only a little in hampering the transport of the fantastically bulky drilling gear, a year seems a moderate estimate for the reconditioning of a well-sabotaged oil-field. Laymen have little knowledge of the difficulties and disappointments of oil drilling; a well sunk within a few yards of a "gusher" may be bone dry. Water may be encountered and be impossible to check, or tools break a thousand feet below ground, and take weeks to "fish" up by special gadgets at the end of long cables. Many wells sunk within the last few years, by experienced crews, in not too difficult ground, have cost not less than £50,000 for drilling alone.

Undoubtedly the most effective method of sabotaging an oil-field is simply that of flooding the wells with either water or brine. In most of the

THE DESTRUCTION OF A RUSSIAN OIL-FIELD, showing the timber derricks well ablaze: The use of large quantities of timber for the surface erections permits of ready destruction of these when necessary. Any standing oil would also be fired, to add to the havoc (see accompanying article)—*Drawing by W. G. Whitaker*

A FIRST PICTURE OF THE "DON ELBOW," showing one of the bends in the great waterway where the war's heaviest fighting has been taking place. Two of the three bridges have been completely destroyed by the Russians in an attempt to stem the Nazi advance

Caucasian oil-fields, where water is one of the chief enemies of the driller, particularly round Baku, this should present no difficulty, though it undoubtedly takes more time than any other plan.

Since water is much heavier than oil, if enough of it is pumped down the bores it will saturate all the surrounding oil-bearing strata, and force back the oil and enter into actual combination with it. All that can be obtained from the well, after this has been done, is a sludge-like compound of oil and water, almost impossible to refine and which froths and foams when any attempt is made to pump it. Brine was a frequent trouble in the Baku oil-field at the best of times, appearing and reappearing without warning at irregular intervals. When a well became drowned in this manner, in the easy-going pre-Soviet days, the flow was simply pumped to waste until conditions righted themselves. Improvements in technique have certainly been made since then, but oil still remains a great bugbear.

Oil in the ground is worthless. It assumes financial or military value only if it can be pumped to the surface and refined. It will do Von Bock little good if his troops merely have the satisfaction of camping out above the oil-wells for a few months. His problem will be to reconstitute a highly-scientific industry in a vulnerable area near the front line. Even if the wells are repaired, the oil as it is pumped from them is useless. Modern refining is a highly-skilled chemical process, requiring much plant—boilers, stills, tanks, fractionating columns—all of which can be made only by high-grade workers from high-grade metals—already in short supply because of the huge munition demands. It is hardly possible that the Caucasian refineries, if they have been thoroughly wrecked, could now be reconstituted or made more than a ghost of their former selves.

J. F. Kellogg

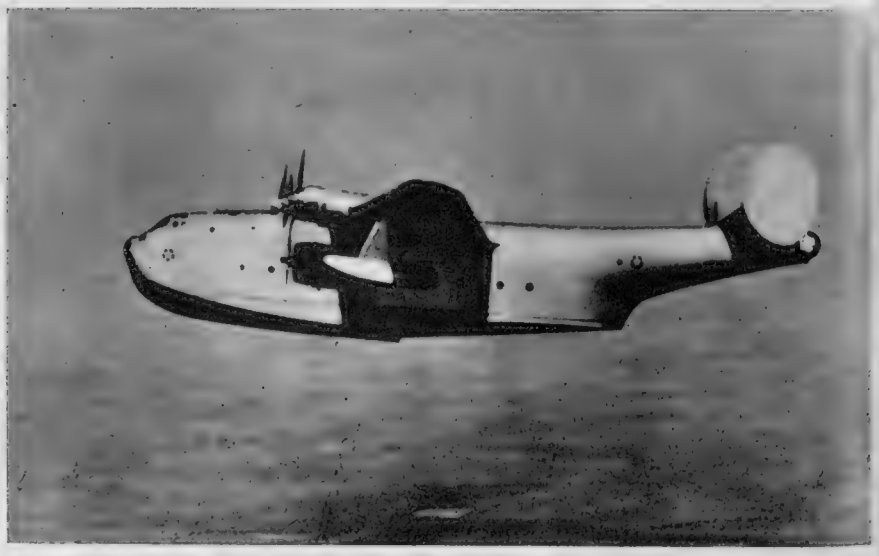
A PORTION OF THE GREAT BAKU OIL-FIELD, showing a vast panorama of derricks built of wood (which would thus be capable of quick demolition)

PROGRESS IN THE WAR BY AIR—*Some New Drawings and Photographs*

CO-OPERATION BETWEEN THE R.A.F. AND THE LAND FORCES DURING A COMBINED OPERATION : A drawing which shows the many functions which the Air Arm can perform after the ground troops have made a landing on the enemy coast. (This has been partly based on the recent big raid at Dieppe)—*Drawing by Roland Davies*

Despite the apparent confusion, there is a definite and carefully calculated plan behind all the various operations here seen in progress. Firstly, a strong fighter shield is keeping off the enemy's aircraft which might hamper the course of action of the attackers : under cover of this shield, Boston Bombers (escorted by Spitfires) are bombing enemy machine-gun and artillery posts ; at the same time Hurribombers are destroying fortifications on or near the beach. Farther inland, heavy bombers are attacking railways to prevent the despatch of reinforcements by the enemy ; whilst Flying Fortresses are attacking aerodromes to prevent the enemy's aircraft from taking off to bomb our landing parties. Blenheim bombers are laying smoke-screens to help the ground forces and as a protection against shell-fire by the land batteries ; Spitfires are ground-strafing the enemy's troops in the city centre, to deprive them of rapid mobility. In the foreground of the picture, bombs dropped by Hurribombers have breached the defence walls guarding the town : through the breaches our tanks are advancing, under cover of cannon-gun Spitfires which are ready to bomb any obstacle in the way of the tanks. All, or most, of the methods depicted in this drawing were employed by our air forces during the big raid on Dieppe recently

THE NEW CO-OPERATION WITH THE GROUND FORCES : The weapons which the Hurricane now uses—two bombs each of 250 lb. which the pilot can drop together or separately ; and the machine-guns with which it can attack buildings or personnel after the bombs have gone—*Drawing by Roland Davies*

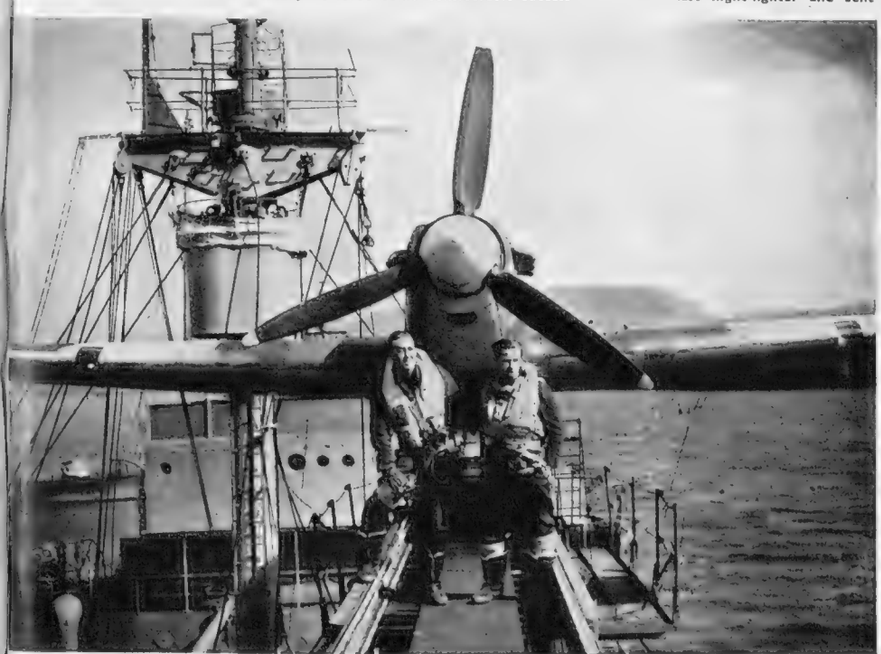


THIS IS THE MARS, THE NEW U.S. FLYING CARGO-BOAT : It is on this huge aircraft that Mr. Henry J. Kaiser has based his plans for his forthcoming fleet of cargo-carriers, to aid in the quick supply of equipment for the actual battle zones. Mars is here undergoing its test flights, with Captain Harold Gray (ace pilot of Pan-American Airways) in command. Quite a number of interesting developments in air transport are envisaged in the United States as a result of the construction of this huge aeroplane

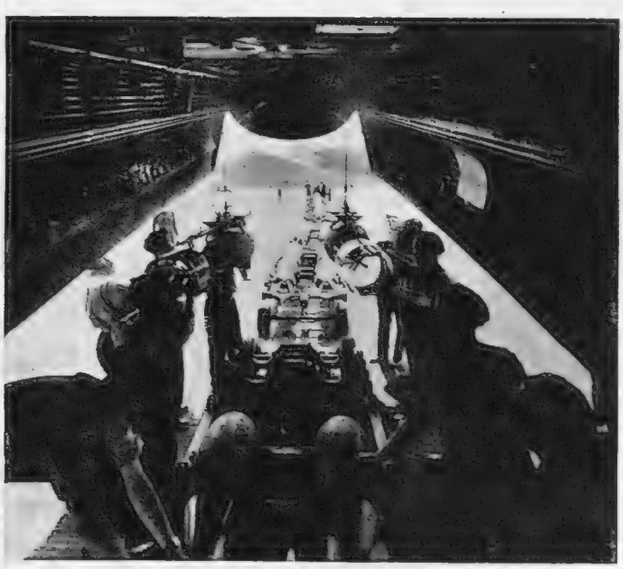
THE FIGHTING TURRETS OF THE NEW FLYING FORTRESSES: The upper picture shows how the gunner enters his turret on the underside of the new big aircraft with which the U.S. Air Forces have been bombing Germany during the past weeks. There is also a gun turret in the nose, a "penthouse," a top-side turret, and a "stinger" (or tail turret). The protection afforded by all these is now considered adequate even against German fighters, against which the Fortresses have already achieved some considerable success

THE FIGHT OF EIGHT STIRLINGS OF THE R.A.F. OVER SAARBRÜCKEN, when the bombers sent a Nazi night-fighter to its end—*Drawing by Roland Davies*

A strong force of bombers recently made a heavy attack on Saarbrücken, capital of the Saar and pivotal point of the West German railway system. During the raid, eight Stirlings from one squadron met a night-fighter each: three of them took successful evasive action; the rear gunners of the next two each drove off one of the fighters. The mid-upper gunner of the sixth Stirling saw his bullets hit the fuselage of one of the Nazi aircraft: the rear gunner of the seventh hit a night-fighter's port wing and saw a red flash; a minute later a red glow was seen under the clouds. The rear and mid-upper gunner of the last Stirling both fired at the last night-fighter and sent it diving through the clouds with a trail of smoke behind it. Below the cloud it was seen to burst into flames. The only damage to any of the Stirlings engaged in this spirited affair was some holes in the wings and fuselage of one of them



TWO R.A.F. PILOTS WHO FIGHT THE ENEMY PLANES FROM SHIPS: Flight Lieut. D. R. Turley-George (on left) and Flying Officer C. Fenwick (spare pilot) in front of their catapult Hurricane on board the s.s. "Empire Trade." They are two of the Catafighters now protecting our Atlantic convoys: they are shot into the air when enemy aircraft approach with the intention of attacking our merchantmen



A COLOSSAL BOMB COMPARTMENT ON THE NEW LANCASTERS: This cavernous recess can take 4,000-lb. bombs and still find plenty of room for other types as well. An armament section is here seen fitting a train-load of bombs ready for night operations. It is possible that very many readers may not have appreciated the huge capacity of a modern bombing aircraft! The Lancaster is the fastest and biggest load-carrier of all: it is the scourge of the Germans from Cologne to Gdynia, and from Rostock to Augsburg. It is now being produced so speedily that fresh squadrons are being equipped each week for the R.A.F.

CHINA IN THE FIFTH YEAR OF HER WAR WITH JAPAN

The Present Position in the Heart of the Country Where There is Never a Thought of Surrender or Even Compromise with the Enemy. With a Note on the Work of the United Aid-to-China Fund which Lady Cripps and the Bishop of Hong Kong Have Organised in Britain

By CHARLES GRAVES

EVERYONE in this country is painfully aware of the fact that we have just completed three years of war with Germany. But few people remember that China is now in the second month of her fifth year of war with Germany's ally. The smallness of the newspapers, the remoteness and somewhat confused nature of the fighting between the Japanese and Chinese, the absence of British troops in the area, have all tended to dim the limelight which would otherwise be shed on this most important battlefield of the world war.

Happily enough, things are going better than they have ever done before. The Chinese Army, fighting for the first time with some air support, has in the past six weeks recaptured about twenty towns in the Chekiang-Kiangsi sector, where a number of the "bomb Tokyo" aerodromes are situated. The Chinese are now holding a gap of about 250 miles on the important Chekiang-Kiangsi railway. This has frustrated the enemy's declared plan to build a Shanghai-Singapore railway in order to release their shipping and naval craft from increasing transport duties. It has also placed the Allied bombing squadrons nearer to Japan proper. Latest reports show that Chinese forces are advancing on Kinhwa and had reached a point about ten miles from the city. The recent successes proved once again that, given air support, the Chinese Army can and will strike back.

The loss of Burma has practically isolated China from the outside world, and the problem of her supplies is serious. At present, small quantities of war materials and medical supplies are trickling into China by various air routes. The overland route, which is still in process of construction, will not likely be ready for some time to come, and even when finished will only be suitable for traffic that is not urgent, the distance being so great.

China, I am assured, will continue to fight, and there is no chance whatsoever that she will ever consider a separate peace offer. Her lot is thrown in wholeheartedly with that of the Allies. There is no food shortage in China, and agricultural and industrial production has increased by from three to eight times the pre-war figure. There is also no shortage of manpower, and no shortage of the will to resist among the people. Moreover, a General Mobilisation Act was passed on May 5 of this year by which the Government is given control and disposition of all available man-power.

The importance of the continuation of Chinese resistance is shown by the fact that Japan is compelled to keep over 1,000,000 troops in China. They have already had 2,000,000 casualties. Against this, the Chinese have lost 6,000,000, most of whom, however, have been killed by the indirect effects of war, like famine. There are also 50,000,000 refugees who are being looked after by the central authorities.

It is, perhaps, because these figures are so gigantic that one can still only have a dazed impression of the Chinese-Japanese War. The Chinese have 3,000,000 men at the front, 2,000,000 more in immediate reserve, and another 6,000,000 in the back areas. In addition, there are 800,000 guerillas, and 600,000 regulars operating behind the Japanese lines.

The new Chinese offensive follows the Chekiang-Kiangsi successes, and while still trying to explain their 100-mile retreat as the regrouping of their forces, the Japanese military spokesmen are preparing the world for more retreats. Some of the advance Chinese troops are within 30 miles of Canton. And here is a point: the Japanese have been unable to claim any major victory since October 1938, when Canton and Hankow fell. They have, however, made three bloody attempts to capture Changsha, and failed on each occasion.

The resignation of Togo, the Japanese Foreign Minister, is regarded by Chinese circles in London as most important, and as being inadequately explained by the phrase, "personal reasons." Togo was the last remaining civilian in any important Japanese Cabinet post, and his dismissal brings the country another stage nearer to complete military dictatorship at a time when Japan is meeting with reverses both in China and in the South Seas. The split is presumably between the military cast headed by General Tojo, and the arms manufacturers, who thought that they were on a good thing, but may now be seriously disillusioned.

In the meantime, the growing success of the Chinese forces may well delay Japan's attack on Siberia. But there are already 500,000 Japanese troops in Manchuria, and their air strength has been brought up to at least 1,000 aeroplanes.

During the five years in which she has been fighting the Japanese, China has had the time to establish representative assemblies in seventeen of her twenty-eight provinces. This is the foundation which she is laying for her constitutional democracy.

The power of the Kuomintang party, and that of the Generalissimo Chiang Kai-shek, both of which are great, are founded on two facts: (1) that China was in the very first stage of her revolutionary development as a democracy when the war caught up with her; (2) that war makes centralisation of control imperative. Development of democratic movements, however, and the promises of the Chinese Government to its people have not been laid aside during these five years, despite war.

MADAME CHIANG KAI-SHEK, wife of the Generalissimo, who has been an inspired figure in the New China and an indomitable worker on her country's behalf. Here she is talking to an old Chinese lady who has all her sons serving in the Army

Another startling fact is that during 1941, while battles raged, and China's army began turning a stalemate into new victories, China saw to it that over 65,000 acres of farm land were newly irrigated, and she set in motion a plan which will irrigate more than 320,000 acres before the end of 1942. China's farmers are receiving improved seeds; they are learning methods of double-cropping; they are being shown how to have winter crops as well as summer crops, and they are being given financial help so that every acre under cultivation will produce more rice and more wheat than it has ever produced before.

China's previously non-industrialised West has, in the past five years, raised its manufactures by incredible percentages. Whereas there were but thirty-three factories in Western China before the war, there are 1,358 now. Some of them are "portable" factories—able to pick up and move when the enemy finds them out, for they are behind enemy lines. The Government has established industrial research centres, where the Chinese have, for example, discovered how to extract gasoline from tung oil. They are even hitting now upon a method of making synthetic rubber from tung oil.

Here in England during the past five years a sum of £250,000 has been raised by various charitable organisations and sent to China for the purchase of drugs, medical equipment, and other badly-needed commodities. Both the raising and the distribution of the money was bound by red tape. Now, the United Aid-to-China Fund has come into existence, with the wife of Sir Stafford Cripps and the Bishop of Hong Kong as the leading spirits, and with Madame Chiang Kai-shek in charge of the immediate distribution. In the last six weeks over £100,000 has been raised, which it is hoped will be doubled by October 10—the thirty-first birthday of the Chinese Republic. The money will be distributed to orphanages, hospitals, disabled soldiers and industrial co-operatives.

Until the fall of Malay, Burma and other territories overrun by the Japanese, the local Chinese were sending home as much as £3,000,000 a year to their relations in China to help them out of their difficulties. That has, of course, come to an end, and yet Madame Chiang Kai-shek and her two sisters have to look after a family of 30,000 children. They are all war orphans, and are being cared for in a hundred different orphanages.

The industrial co-operatives have grown from a small experiment to a national movement. They have set up thousands of workshops and factories to spin and weave, to make millions of blankets, and small arms ammunition. They are helping China to help herself, and give life to many of the homeless, destitute and disabled who might otherwise have starved.

All donations to the United Aid-to-China Fund should be sent to Lady Cripps at 13, Regent Street, London, S.W.1. Politically, as well as from a charitable point of view, it is desirable that this Fund should have a real success. The Chinese have seen with envious eyes the growth of the sums of money raised by Mrs. Winston Churchill for Russia, and are inclined to feel that with the cutting of the Burma Road we are rapidly losing contact with them. As the Bishop of Hong Kong says: "If we can make this effort really successful in magnitude, and show China our appreciation of all she has done, it may do a great deal to help the friendship between our two countries."

I myself would have asked the Bishop if he could provide that really useful piece of information for the British public—some directive to enable us immediately to distinguish Chinese from Japanese. I have, however, found in the recent all-Chinese issue of *World Review* the following pronouncement:

"*Appearances of the Chinese and Japanese.* There is no infallible way of telling them apart, because the same racial strains are mixed in both. Even an anthropologist, with calipers and plenty of time to measure heads, noses, shoulders, hips, is sometimes stumped. A few rules of thumb—not always reliable:

"Some Chinese are tall (average 5 ft. 5 ins.). Virtually all Japanese are short (average 5 ft. 2½ ins.).

"Japanese are likely to be stockier and broader-hipped than short Chinese.

"Japanese—except for wrestlers—are seldom fat; they often dry up and grow lean as they age. The Chinese often put on weight, particularly if they are prosperous (in China, with its frequent famines, being fat is esteemed as a sign of being a solid citizen).

"Chinese not as hairy as Japanese, seldom grow an impressive moustache.

"Most Chinese avoid horn-rimmed spectacles.

"Although both have the typical epicanthic fold of the upper eyelid (which makes them look almond-eyed), Japanese eyes are usually set closer together.

"Those who know them best often rely on facial expression to tell them apart; the Chinese expression is likely to be more placid, kindly, open; the Japanese more positive, dogmatic, arrogant.

"Some aristocratic Japanese have thin, aquiline noses, narrow faces and, except for their eyes, look like Caucasians.

"Japanese are nervous in conversation, laugh loudly at the wrong time.

"Japanese walk stiffly erect, hard-heeled. Chinese more relaxed, have an easy gait, sometimes shuffle."

The Shaftesbury Homes and "Arethusa" Training Ship

This Society recently received 10s., accompanied by the following note: "It is sent as a token of memory for my late mother (who was very fond of children), instead of being spent in a lot of flowers for her grave on her birthday." Could she have done better? May her act be an incentive to others to follow and thus help more poor children Address: 164, Shaftesbury Avenue, W.C.2.

AN EXHIBITION BY FIREMEN ARTISTS

These, and many other pictures, will be on view until September 26 at Burlington House, in aid of children of firemen orphaned in the "blitz." Besides London raid scenes, there are many paintings of Canterbury, Bath and Exeter, and for the first time there are a number of firemen-artist entries from the Provinces. Last year, 64,400 people visited the Exhibition: two of the Firemen Artists' Exhibitions are still touring the United States, whilst a third is on tour in Britain. The present show was opened by Admiral Sir Edward Evans, London Regional Commissioner, on August 28

"A LARGE CRATER, CANTERBURY," by E. Boyce Uden: A scene after the reprisal raid on the Cathedral city

"ST. AUGUSTINE'S ABBEY, CANTERBURY," a delicate water-colour drawing by E. Boyce Uden, which supplements the canvas in oils reproduced on the left

"DOCKLAND BLAZE," oil painting by Bernard Hailstone, a well-known painter now serving as a London fireman

"EXETER CATHEDRAL AND THE ABBEY CLOSE," a water-colour drawing by Leonard Rosoman of the scene after another "Baedeker" raid by the Germans

"RELIEF CREWS CHANGING OVER," by Reginald Mills—a vivid impression of London firemen at work

"QUEEN'S HALL DISCORD," painted by F. T. W. Cook: This famous London musical centre was very badly damaged by fire after one of the big Metropolitan "blitzes"

The World of Books—By Vernon Fane

ADVENTURE IN FACT AND FICTION

A Lady in the Wildest Wild West ; Spy Hunting on Everest ; Love in the Tanks ; Those Long Week-ends ; The Man from Betelgeuse ; King Haakon's Great Record

NO LIFE FOR A LADY (Michael Joseph. 15s.) is a grand book for a reader. Mrs. Agnes Morley Cleaveland's life may have been unconventional, certainly was adventurous, and indubitably makes splendid material for an autobiography.

Mrs. Cleaveland was brought up as a child in the wildest part of New Mexico, and New Mexico was wild in every sense fifty years ago. Her mother travelled there in a stage-coach with an armed escort, and Mrs. Cleaveland's own earliest memory is of being interrupted in the pleasant occupation of eating bread and sugar by having a murdered man pitch off his horse at her feet.

"I gaze upon the two tragedies with equal distress. The dead man a few feet away from me and the slice of buttered and sugared bread in the dust at my feet. I see the flies which are already settling upon both." Any book of reminiscences in which that is not even a high spot is obviously worth attention.

The Morley family, in which Agnes was the best rider—comparable even with Three-Fingered Pete—was brought up with a proper respect for animals, but no fear. It is unnecessary to specify wild animals, because all the animals in this book, and particularly the horses, are wild. Some of the people are a little untamed too.

Agnes could shoot and ride and trap and play poker, for preference with rustlers, and trail grizzly bears. One of her moments of deepest childlike shame was when she followed a grizzly for miles, mistaking its tracks for those of a sheepherder. It never occurred to her, even in retrospect, to be frightened.

There are stories of her chasing runaway cattle, riding bareback, stories of her alone in the snow, miles from the ranch, with wounded bears about and only a knife and a box of matches as protection or shelter, but the story I would choose to illustrate her particular brand of endurance most clearly is her own account of a cowboy dance at which, "dazed with fatigue, I have dragged myself through the last hour of many a dance, praying for the sun to rise and put an end to my misery. A cowpuncher who would have gone to fantastic lengths to save a lady from discomfort in any other circumstances would be inhuman in his insistence upon 'just one dance more.'"

There is one important point on which Mrs. Cleaveland puts her readers right. Cowboys do not wear guns and spurs to a dance. "High-heeled boots, yes: one couldn't dance barefoot, could one?"

Mr. Frank Smythe's book is adventure again, but this time it is fiction, a new departure for the Everest mountaineer. SECRET MISSION (Hodder and Stoughton. 8s. 6d.) has the secret country of Nepal, still closed to foreign visitors, and the Himalayan Mountains for its setting, except for a brief and hazardous interlude on board ship. It has all the trappings of a good thriller, including a rather regrettable love-story, which could be skipped with advantage. But the straightforward narrative of peril in climbing and peril from the machinations—it's the kind of book in which there really are machinations—of Nazi spies is first-rate, and highly to be recommended to anyone with the good red blood of an armchair adventurer.

When Mr. Smythe writes of the mountains he knows as well as any Englishman living it is a superb story, and in my opinion any threat from those rock-scaling Gestapo agents was insignificant beside the magnificently real danger of crossing Himalayan passes in blizzards, and negotiating melting snow bridges over crevasses. All in all, it is great stuff, and not even the introduction of a few brutal Boches makes it too close to our own preoccupations of war.

On the other hand, the war is very present in Mr. Charles Terrot's book, which seems, even in its love episodes, to be a fairly authentic picture of life in a unit of the Royal Armoured Corps.

The hero of THE DAWN IS OURS (Collins. 7s. 6d.) is an agreeable and diffident young man, a promising cameraman in a British film studio till September 1939, and after that a junior officer "in tanks." In Mr. Terrot's story, as in Mr. Smythe's, the "shop" talk is the best part, and with none of the dullness that this might suggest. On the contrary, this writer has a freshness in recording things familiar to him that is very attractive. When I say that he is even able to give a Bren-gun carrier a certain personality, you will see what I mean, for that can be no commonplace feat.

Mrs. Angela Thirkell has not precisely "done it again," as people with a passion for statistics are apt to say of almost any repeated action, but she has written another likeable, mildly funny book about comfortable families living in the country. Someone should try transplanting Mrs. Thirkell to a city life. The results might be interesting.

I don't, by the way, mean to infer that all the characters invented by this writer's pen are in comfortable circumstances; simply that they themselves are comfortable, unembarrassing people, even when confronted by love, "death duties and other ameliorative influences."

The family of MARLING HALL (Hamish Hamilton. 8s. 6d.) has a certain generic resemblance to other families so deftly drawn by Mrs. Thirkell, and is none the worse for that. Meeting its members under different names is no more and no less welcome than recognising last summer's visitors in one's favourite holiday place. Always provided that the reader is no misanthrope.

The Marlings, who very properly live in a house of that name, near the village of Marling Melicent, where the Marling Arms is the best inn, are a very nice family, quite entertaining enough for a short week-end visit. And that, even if there were such pre-war amenities as *long* week-end visits, is still the time I should spend on them.

THE "INTIMATE" DOG SHOW DISPLACES THE BIG SHOW IN WARTIME—Two charming entrants in a recent P.D.S.A. show at Hendon: The war has brought about a considerable diminution in the number of dog shows held throughout the country. If report be true, it has also brought about a diminution in the total number of pet animals, owing to changes of residence, food shortage, casualties during air-raids, and other reasons. But a dog is always a Dog to a real animal lover: and such shows as are still held (usually only of a local character) are always crowded—with entrants and spectators alike. One such was held a few days ago by the P.D.S.A. at Hendon, when a good number of animals, of all shapes and sizes and breeds, were entered by local residents, and where the above attractive picture was taken. It shows Mrs. C. Matania with her two charming pedigree exhibits: on the left is her prize-winning miniature Pekinese, Jo-Jo, and on the right her small-type, woolly-pawed Sealyham, Bundle

By all the standards of the booksellers, Mr. Eliot Crawshay-Williams is a best-seller. On the wrapper of LAPSE INTO LUNACY (John Long. 8s. 6d.), a previous book is advertised as being "now in its 87th thousand."

After the first two or three pages of this novel I began to understand why. It begins with a scene between a man of fifty, described as an "autocratic squire," and a sexy young married woman of twenty-six in which both of them display the manners and morals of the farmyard.

> "Women were bitches.
> Pretending she was too tired to be made love to!"

Mark Richmond had two awful, just-grown-up children whose manners and morals were worse, if anything, than his own, and a sad, attractive and virtuous second wife. Then one fine starry night a Being "from a planet in the constellation you call Orion. A satellite of the star Betelgeuse," arrives in a metal cylinder, knocks Mark Richmond for six, enters his body and proceeds to pursue his investigations into earthly matters.

Isabel, the wife, finds him a welcome change from the amorous bully, while everybody else, the family and the neighbours, merely think he is the old Mark gone dotty. The Betelgeusian and Isabel have a nice time on the Highest Plane of thought and conduct; the son goes from bad to worse, and with the aid of a rascally doctor, tries to get his father certified; while the daughter has a high old time at an ambulance post.

When things get too hot, the gentleman from the stars nips back into his cylinder and pops the old Mark back into his skin again. Isabel, meanwhile, is going to have the baby which Mark would never allow her.

I see no reason why this book should fall below the 100,000 mark.

ALL FOR NORWAY! (J. M. Dent. 12s. 6d.) is published on behalf of the Royal Norwegian Government Information Office to celebrate the occasion of King Haakon's seventieth birthday, August 3, 1942.

Haakon VII was elected King of Norway in 1905 by an overwhelming majority of the people and by a unanimous Storthing. The break with the ninety-year-old union with Sweden was overdue, but the setting-up of a separate Monarchy by a system of free election did not meet with the approval of the great Powers, Great Britain among them, who were concerned to press the claims of a representative of the Swedish dynasty. Largely through the instrumentality of Christian Michelson, the Prime Minister, and Nansen, the famous explorer, a plebiscite was taken and the Danish Prince was elected. It afterwards transpired that the King himself had insisted on it because "I wished to be sure that it was the Norwegian people and not merely a party that wanted me as their King, because my task is, above all, to unite and not to divide Norway."

This handsome book is a tribute to a reign of thirty-five years of social and economic growth, during which the flag of Norway had been proudly carried into the seven seas by an indomitable merchant marine. By the development of its democratic institutions and social services Norway has earned from President Roosevelt the description of a "social laboratory."

The record also tells of Norway's suffering under the Nazi heel; of the deliberate attempt to destroy the King and the Crown Prince, and of the noble and heroic part her fighting forces are taking in the fight for freedom. It is beautifully illustrated.

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HEALTH AND FOOD RATIONS

WHAT IS A HEALTHY DIET?

Before the war many people suffered from malnutrition because they picked the wrong foods from large and varied supplies. Now, the way to be well fed is to make sure of picking the right foods which are still available, even though supplies may be restricted.

Keep a few good sound principles well in mind. *Natural foods are the best*—vegetables contain important vitamins and become plentiful from time to time; National Wheatmeal bread has many valuable elements which were lacking in white bread; milk is available for children, who need it most. Fish liver oil—another natural food—contains the protective and bone-forming vitamins and is an essential supplement to everyone's diet, whether grown-ups or children.

The newspapers, the B.B.C. and the Ministry of Food are constantly publishing excellent recipes. You will find it pays you well to follow them. Diet should be varied if you are to make the best use of it.

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This is one of a series of announcements issued in support of the Government's food policy by the makers of

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